





Transforming the skill landscape



Participant Handbook

Sector
AGRICULTURE AND ALLIED

Sub-Sector Agriculture Crop Production

Occupation
Landscaping and Gardening

Reference ID: AGR/Q0801, Version 1.0 NSQF Level 4

Gardener

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Shri Narendra Modi Prime Minister of India



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It is expected that this publication would meet the complete requirements of QP/NOS based training delivery, we welcome the suggestions from users, Industry experts and other stakeholders for any improvement in future.

- About this book

A Gardener in the agriculture industry is a very important job role related to landscaping and gardening activity. The job role involves a lot of technical knowhow. He works in familiar, unpredictable, routine, situations of clear choice. Gardener is responsible for taking care of beautification of lawns and gardens for private Houses, Parks, and Hotels in order to attract customers. This job requires the individual to work independently and be comfortable in making decisions pertaining to his/her area of work. The individual should be result oriented. The individual should also be able to demonstrate skills of identifying crops, maintaining garden, use of various tools and decision making for instant problem solving. The trainee will enhance his/her knowledge under the guidance of the trainer in the following skills:

- Knowledge and Understanding: Adequate operational knowledge and understanding to perform the required task
- **Performance Criteria**: Gain the required skills through hands on training and perform the required operations within the specified standards
- **Professional Skills**: Ability to make operational decisions pertaining to the area of work.

The handbook incorporates well-defined roles of Gardener like nursery management, propagation of plant material, designing of garden components, Plantation, maintenance and care of a garden, etc. The participant should be result oriented and responsible for his/her own working and learning. The participant should also be able to demonstrate skills of using various tools and decision making for instant problem solving.

We wishes all the best for your future in the Gardening Sector

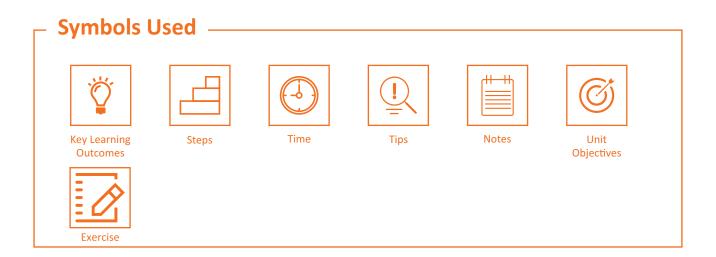


Table of Contents

S.No	Modules and Units	Page No
1.	Introduction	1
	Unit 1.1 - Introduction to Gardening	3
	Unit 1.2 - Types of Garden	8
2.	Nursery Management and Propagation of Plant Material (AGR/N0801)	31
	Unit 2.1 - Nursery Management	33
	Unit 2.2 - Plant Propagation	54
3.	Designing of Garden Components (AGR/N0802)	65
	Unit 3.1 - Garden Design	67
	Unit 3.2 - Components of a garden	77
4.	Plantation, Maintenance and Care of Garden (AGR/N0803)	94
	Unit 4.1 - Plantation, Maintenance and care of Garden	96
5.	Maintain health & safety at the work place (AGR/N9903)	111
	Unit 5.1 - Garden hazards	113
	Unit 5.2 - Gardening Health and Safety	116
6.	Employability & Entrepreneurship Skills (AGR/N4103)	121
	Unit 6.1 – Personal Strengths & Value Systems	125
	Unit 6.2 – Digital Literacy: A Recap	145
	Unit 6.3 – Money Matters	151
	Unit 6.4 – Preparing for Employment & Self Employment	162
	Unit 6.5 – Understanding Entrepreneurship	171
	Unit 6.6 – Preparing to be an Entrepreneur	194







सत्यमेव जयते GOVERNMENT OF INDIA MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP



Transforming the skill landscape



1.Introduction

Unit 1.1 - Introduction to Gardening Unit 1.2 - Types of Garden



– Key Learning Outcomes 🏹

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

- Understand the Role of a Gardener
- Study and understand Types of Gardens
- Gain knowledge about the Aesthetic value of garden.

UNIT 1.1: Introduction to Gardening

Unit Objectives ()

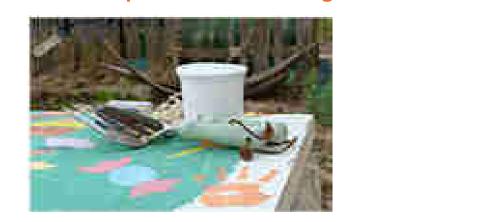
At the end of this unit, you will be able to:

- Understand the Scope and importance of gardening
- Understand the role of a gardener

1.1.1 Introduction

Gardening is the practice of growing and cultivating plants as part of horticulture. In gardens, ornamental plants are often grown for their flowers, foliage, or overall appearance; useful plants, such as root vegetables, leaf vegetables, fruits, and herbs, are grown for consumption, for use as dyes, or for medicinal or cosmetic use. Gardening is considered to be a relaxing activity for many people.

Gardening ranges in scale from fruit orchards, to long boulevard plantings with one or more different types of shrubs, trees, and herbaceous plants, to residential yards including lawns and foundation plantings, to plants in large or small containers grown inside or outside. Gardening may be very specialized, with only one type of plant grown, or involve a large number of different plants in mixed plantings. It involves an active participation in the growing of plants, and tends to be labor-intensive, which differentiates it from farming or forestry.



1.1.2 Comparison with farming

Fig 1.1.2 Hand gardening tools

Gardening for beauty is likely nearly as old as farming for food, however for most of history for the majority of people there was no real distinction since the need for food and other useful product trumped other concerns. Small-scale, subsistence agriculture (called hoe-farming) is largely indistinguishable from gardening. A patch of potatoes grown by a Peruvian peasant or an Irish smallholder for personal use could be described as either a garden or a farm. Gardening for average people evolved as a separate discipline, more concerned with aesthetics and recreation, under the influence of the pleasure gardens of the wealthy. Meanwhile, farming has evolved (in developed countries) in the direction of commercialization, economics of scale, and monocropping.

In respect to its food producing purpose, gardening is distinguished from farming chiefly by scale and intent. Farming occurs on a larger scale, and with the production of salable goods as a major motivation. Gardening is done on a smaller scale, primarily for pleasure and to produce goods for the gardener's own family or community. There is some overlap between the terms, particularly in that some moderate-sized vegetable growing concerns, often called market gardening, can fit in either category.

1.1.3 Planting in a garden

The key distinction between gardening and farming is essentially one of scale; gardening can be a hobby or an income supplement, but farming is generally understood as a full-time or commercial activity, usually involving more land and quite different practices. One distinction is that gardening is labor-intensive and employs very little infrastructural capital, sometimes no more than a few tools, e.g. a spade, hoe, basket and watering can. By contrast, larger-scale farming often involves irrigation systems, chemical fertilizers and harvesters or at least ladders, e.g. to reach up into fruit trees. However, this distinction is becoming blurred with the increasing use of power tools in even small gardens.

In part because of labor intensity and aesthetic motivations, gardening is very often much more productive per unit of land than farming. The term precision agriculture is sometimes used to describe gardening using intermediate technology (more than tools, less than harvesters), especially of organic varieties. Gardening is effectively scaled up to feed entire villages of over 100 people from specialized plots. A variant is the community garden which offers plots to urban dwellers; see further in allotment (gardening).

1.1.4 Importance

Flowers have been considered as the symbol of grace and elegance and a feast for our eyes. They are used on all religious festival occasions. Flowers are given as a birthday presents, wedding gifts or while meeting sick people and even at funerals. Most Hindu ladies adhere their; hair style with flowers i.e. *Gajara* and *Veni* and it is one of the important floral ornament which will and grace to their beauty. All the people irrespective of their origin, race, sex and cadre love flowers. Generally flowers are offered by devotees in Temple, Gurudwara, Church and Masjids- Flowers are used as a floral decoration. Even dried flowers are also used in flower craft or arrangement of garlands and bouquets are prepared and offered to welcome the dignitaries. When cut flowers are used for vase decoration, that will be a marvelous piece of indoor decoration. Importance of flowers is not restricted to the beautification, decoration or preparation of Gajra, Garland, Veni or Bouquets but also have the industrial importance too. Some flowers like Rose, Jasmines, Tuberose, Kevda, Bakul are used for extraction of essential oils which is base for preparation of perfumes, scents or attar. From rose Gulkand, Rose water etc. products are also prepared.

1.1.5 Scope

There is a good scope for commercial floriculture. The important factors which decide the scope for Commercial Floriculture are Soil, Climate, labour. Transport and Market. All most all big cities are developing very speedily to accommodate this fast growing population, cement concrete, jungle is also developing at the some rate and thus peoples are now realizing the importance of open space, parks and garden for relaxation, peace of mind, recreation and unpolluted air. Thus, to meet out all these problems bio-aesthetic planning is essential, which runs hand in hand with town planning. In modem life floriculture garden in the country yard is an integral part of the modern life and thus ornamental plants has find a pride of place in home gardening. As far as flower trade is concerned i.e. for cut flowers and loose flowers, it is growing very well in our state because these cut flowers are used for vase decoration and now-a-days there is a craze for indoor decoration. As far as loose flowers are concerned these are mainly used for preparation of gajara, veni, garland and bouquets and thus demand of flowers for these purpose is unending. Thus, taking into consideration the different points i.e. bio-aesthetic planning, floral garden, indoor decoration, social functions and religious functions the demand for floricultural plants is increasing day by day and to meet out the same there is a good scope for growing and raising of Ornamental or Floricultural plants. When Flower Trade is concerned; different flowers like Rose, Chrysanthemum, Gladiolus, Tuberose are demanded in the market as cut flowers. While Aster, Gaillardia, Marigold, Chrysanthemum, Jasmines, Tager^ Nerium as loose flowers.

- 1.1.6 Role of a Gardener

Gardener in the agriculture industry is a very important job role related to landscaping and gardening activity, in hindi it is commonly known as 'Mali'. The job role involves a lot of technical knowhow. He works in familiar, unpredictable, routine, situations of clear choice. Gardener is responsible for taking care of beautification of lawns and gardens for private Houses, Parks, and Hotels in order to attract customers.

Exercise

1. Define Gardening.
Answer:
2. What is the scape of Cardening in India?
2. What is the scope of Gardening in India?
Answer:

Notes	

UNIT 1.2: Types of Garden

Unit Objectives 6

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

Understand the types of gardening

1.2.1 TYPES OF GARDEN -

1. LANDSCAPING OF HOME 2. LANDSCAPING OF INSTITUTE 3. LANDSCAPING OF INDUSTRY 4. ROOF GARDEN

1. LANDSCAPING OF HOME

There are many people who think that landscape gardening relates to gardening only i.e. in large public parks or palaces of the rich. Landscaping as it is done for larger public parks and / or estates can also be implemented in a tasteful and artistic way for a small home ground, though on a smaller scale. The term "small" is a misleading 'one so far as it relates to gardens. The simplest definitive or "small", as suggested by some authors quite appropriately, is an area which can be effectively managed and maintained physically as well as financially by the owner and his family with occasional hired labour for such hard work as digging, mowing, and shearing of hedges. Here, ways will be suggested for landscaping only small residential houses. For larger estates, a combination of landscaping effects suggested for parks and home landscaping may be followed.

There are some basic guidelines for a home landscape. But personal preference plays a considerable role in developing a home garden. The home including its surroundings should be an outward expression of the inner personality and individuality of the owner. Often a common mistake is made by many to copy a successful competitor of a garden competition or a neighbour. This may not suit your own home for various reasons. For example, location aspect of your own garden may be quite different compared to the one which you want to copy. It is advisable to think a lot before even a single digging work starts. It is a matter of great regret that in our country sometimes we spend a fortune in decorating the interior of the house to make it attractive but ignore the outside compound.

Making a Plan Before any actual garden work is undertaken a master plan has to be prepared according to a scale (1: 15 or 1: 20) in which all the features such as house wall, drive-way, paths, flower beds, shrubbery, etc., are plotted. The shaded areas due to large tree canopy or the building itself has to be marked on the plan. A plan prepared on a printed graph paper is of great help. The plan thus prepared should be studied again and again keeping in view what shape a plant will take in the long run. It is frequently observed that people attracted by the graceful form of a young *Araucaria cookii*, plant this in the centre of a lawn or near the house possess the gigantic form and height it will attain after some years. Perhaps the owner of the house will cut this tree when overgrown or it may be retained to the detriment of other plants growing below it. Either way, this is not a good planning. Perhaps, one way of satisfying the urge of a garden lover to grow such beautiful trees in a small compound, is to grow them large concrete tubs and bury the tub growing the tree in the appropriate place, thus giving the impression that the plant has actually been grown on the ground. When this attains a considerable height, say 3-6 m, the tree along with the pot should be lifted and given to someone who can afford to use such a grown-up tree. But it is better not to include such controversial items. If the garden area is sufficiently large, this can be divided into three areas.

(1) Approach or Public Area: This is the area from the street side extending to the entrance of the house. The area may be small or quite large depending upon where the building is situated. The aim is to harmonize or blend the surroundings with the house proper. The approach area should not be overcrowded with large trees. It is better to have doorway or "foundation" plantings with low rowing shrubs and evergreens. Floribunda and miniature roses are also suitable for foundation planting provided sufficient sun, at least during the morning hours, is available. It is important to note that planting in front of the house should neither obscure it nor cut off light and air nor block the windows thus obstructing view of the garden from indoors.

Big trees, if space permits, can go in the backyard but should not be overcrowded in the front. But a few low-growing trees can be accommodated at the appropriate places as next to entrance, if space is available or somewhere in the front lawn. An open spacious lawn with some annuals (cut-and-come again zinnias, salvias, and petunias) or herbaceous perennials (chrysanthemum, Canna, and *Impatiens* in shade) can be planned in addition to the foundation plantings.



Fig 2.1.1 Floribunda rose



Fig 2.1.1 Impatiens balsamina



Fig 2.1.1 Zinnia

(2) Work or Service Area: The work or service area can be convenient, orderly and attractive. Wherever feasible this and the living area should be situated at the back of the house as these need seclusion or privacy. This area includes the kitchen garden, compost bin, nursery, tool shed, and garage. Some people like to include the children's swings and the slide in this portion as the children can be kept under surveillance from the kitchen. This should be separated from view by planting a thick hedge or a row of bushy shrubs, as this is considered as the shabbiest part in any garden.

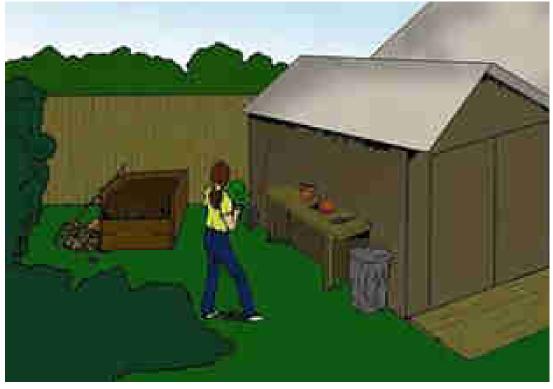


Fig 2.1.1 Service area

(3) Private Garden Area or Living Area: This is generally termed as the outdoor living area, where people sit out in the winter to enjoy the sun or rest in the summer under an arbour or shade of tree. This area should be easily approachable and visible from the living (drawing-room) or dining-room, screened from unsightly objects and for privacy. In the western countries people prefer a terrace and this is the place where it should come. There should be some shaded sitting spot such as a tree or arbour with garden benches. Landscaping can help you effectively cover your outdoors thereby helping you block unpleasant views from outsiders or your own neighbors. Building huge walls to achieve this would be undesirable when the same can be achieved beautifully through landscaping. Garden benches offer a real opportunity to add utility, color and beauty to the landscape. Comfortable and attractive items are now available in a wide variety of low maintenance outdoor furniture. Outdoor furniture must be large enough to be practical and must be in scale with its surroundings. Built-in furniture has the added value of being permanently in place and enhancing the overall design. Occasionally the surface of a retaining wall or raised planter can serve as a seating area. The living terrace is the most usual place for outdoor furniture. A wide stretch of lawn with shrub border or few annual beds or a rose garden can also be included in this section. A tennis court or a play area has to be included here, if there is enough room.

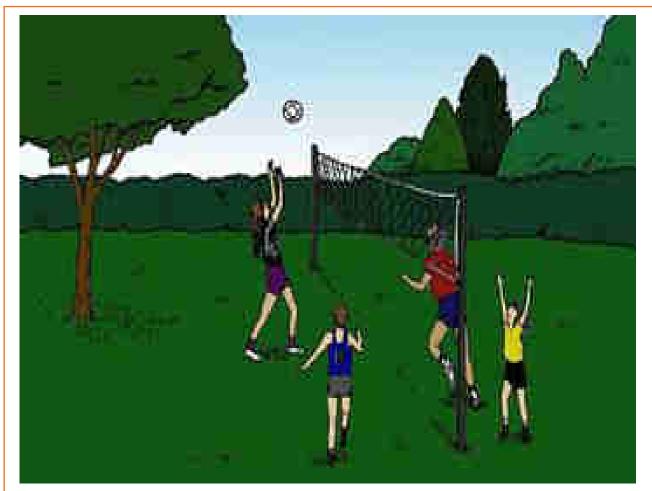


Fig 2.1.1 Play area

But before actual planning one has to first decide what one wants for one's house. A choice has to be made from the following. Whether the garden is needed (a) as an outdoor having room with a long stretch of lawn and terrace (b) as a fenced-in playground (c) as a show piece with collection of exotic and rare plants or (d) a yielder of vegetables and fruits or cut flowers for the house is to be determined first. Some may like to add to the list a large tree for shade or trees to attract birds. It is to be considered first what should be the major theme of the garden. If somebody is fascinated with flowers, the borders are to be planned wide to fulfill his desire. People fond of vegetables and fruit may like to reserve the major portion of the area for this purpose with possibly a little area left around the house for a pleasure garden. But, if the garden is desired as a place for outdoor living, a vast expanse of lawn with minimum of beds and borders has to be planned. Some novices may like to combine the good qualities of all these themes and incorporate in his garden. This is bound to create a mess of everything and the ultimate result will be a garden good for nothing. Many people advise not to include any pool or formal rock garden or the kind in a home garden. But there is no harm if a formal or informal 111y pool can fit in with the overall design, with or without a fountain or a rock garden. A statue or sun dial can also be well fitted in some spacious compounds.

12



Fig 2.1.1 Lily pool

Some Points to Ponder In designing a house some more thinking is necessary. To keep down maintenance cost and time, an untrimmed hedge should be preferred over trimmed one, open lawns and shrubs need less attention than annual flower beds. If the beds and borders in a lawn are edged with stone or brick no hand-clipping of grass will be required. A pool needs to be cleaned occasionally and one should ponder twice before including this in the plan. The water outlets in the garden should be fixed at appropriate places so that the hoses are not dragged to long distances. The above suggestions are for reducing the labour cost which is especially relevant in industrially advanced countries where labour is costly. Fortunately in India, labour is not so costly' and one can include one or two features needing help of manual labour. To create privacy, shrubs, trees, hedges, fences, or creepers trained on the wire-mesh structure supported by G.I. pipe pillars or angle iron can be grown. The trees are used when height is required, otherwise hedges and / or other types of screens should be preferred. Lighting is required in the light specially for terrace area and paths. The same electricity points can be utilized for running an electric lawn mower.



Fig 2.1.1 Electric lawn mower

How to Proceed When everything has been decided, it is time to tentatively select the plants needed. The different features are then drawn on the paper with a pencil so that this can be erased if alterations are to be made. After thorough study and several additions and omissions a plan is finalized. For an experienced man, this would not be much of a problem. But a novice must visit the neighbours and see some of the local parks to know what can be grown. The foremost thing is the selection the materials for basic framework such as trees needed for shade, background, screens, the doorway and the corner of the house. To this the features needed for effects and beauty as for example plants for foundation planting, flower beds, specimen shrubs or trees are added. After everything is finalized on paper these are put into practice on the ground with the help of split-bamboo stakes and rubber hose. The trees are represented by bamboo stakes, while the beds and borders can be plotted by bending a rubber hose in the desired pattern, Paths, hedge, or screen area can also be marked with stakes. When everything is plotted the design is studied again and last-minute changes are effected if required. After this, digging and planting work are started according to plan. Before implementing the plan some compounds may need a little dressing-up like cleaning, levelling and tidying-up.

Salvaging an Old Garden If a property has been purchased which already had some garden, it is to be studied whether the old garden can be re-made. This is a complicated job which has its advantages and disadvantages. It is often difficult to adjust some existing features into the new plan. The aim is to incorporate in the new design every interesting existing feature and remove others not needed. A bird bath, water garden and terraces should be retained and improved upon. The remaking process has to be completed slowly after watching every feature carefully and evaluating their utility in the new design.



Fig 2.1.1 Water garden

Problems and solutions Often it so happens that a double-storey house has a one-storey garage attached at one side of the building thus disturbing the whole balance. The solution in correcting this imbalance lies in planting tall trees with rounded canopy along the garage end. It is also important to select the proper plants near the house to soften and broaden the view of the house. A medium tree with low-branching habit and with a rounded or little oval-shaped top is planted near the corner with some low-growing shrubs planted around it. Trees such as silver oak, *Amherstia nobilis, Cassia nodosa, Dillenia indica, Gulmohar, Magnolia grandiflora Saraca indica Anthocephalus cadamba, Erythropsis colorata, Michelia champaca, Polyalthia.longifolia* and can be used for this purpose. If the tree selected is deciduous in nature the evergreen shrubs below should form the contrast. For a two-storey house, a high branching rounded canopy tree such as and should be planted farthest from the corner of the house and in between a fairly large second tree or shrub is planted, besides some other low-growing shrubs.



Fig 2.1.1 Amherstia nobilis

Gulmohar



Michelia champaca

A doorway near the house needs special attention as this is the place which receives maximum attention from a visitor. Depending upon the approach a doorway can be planted informally, formally, or in a semiinformal pattern. It can be arranged with a garden-type design consisting of an ornamental shade or flowering tree perennial and annual flowers, climbing roses, some bulbs such as *Zephyranthes, Amaryllis* and daffodils (for temperate regions). Where it is not possible to plant the annual and perennial flowers in ground these can be put in tubs and arranged artistically. An ornamental light post, an urn or an artistically shaped boulder will be an object of interest when placed near the shade tree or in an appropriate corner. A bed of roses can also be a spot of beauty provided it receives the morning sun. Symmetrical plants with pyramidal form such as *Thuja, Juniperus chinensis,* and *Cupressus macrocarpa* are preferred by many near the doorway for a formal treatment.



Fig 2.1.1 Amaryllis



Fig 2.1.1 Daffodils

If a plot is rectangular in shape, where the length is far greater than the breadth, the best way to develop such plot will be to divide the whole area into a series of garden compartments enclosed by hedges with continuous walk of gravel paving or grass connecting each segment with the other. But some people may prefer to have long stretches of open lawn, when this arrangement will not do. In such cases the plot should at least be subdivided into two segments as too much of a rectangular land with narrow width is not pleasing to the eye.

Many people inherit irregular-shaped plots specially those who are allotted the corner plots. It is far more difficult to plan a garden for such plots compared to a rectangular or a square plot. Inept handling may ruin such plots but a man with imagination and artistic sense can develop a garden which will be far more interesting than a garden in a regular shaped plot. Such plots should receive informal treatments. An irregular-shaped corner may be tackled by constructing an informal lily pool. Similarly beds and borders should be shaped irregularly according to the contour of the plot. It may be far more convenient to develop a rock garden in a shapeless corner than to have a lawn or flower bed. It may be wise not to have formal paths of any kind; instead, the various areas may be reached by stepping-stones placed in artistically-curved fashion over the grass. These are only a few suggestions. Much depends on the imagination and tact of the man doing the job on the spot as the situation demands.

Plans for very small compounds What we have so far discussed suits the plots which are relatively large. For very small plots which cannot be divided into different segments such as public area, living area, and work area, one has to depend upon one's own imagination to landscape such plots. But it should be remembered that the majority of the flowering plants and Calcutta *doob* do not flourish well in a shaded place. For such plots placed under the shade it is wise to put the flowering plants preferring semi-shade such as Impageranium, shade loving foliage plants, day lily and foo??all lily. Otherwise, the lawn planted with a few specimen roses or shrubs or one or two small beds of flowering annuals will be more than sufficient for small compounds situated in open area. In all probability it will not be possible to have any large tree in such compounds.



Fig 2.1.1 Impatiens sultanii

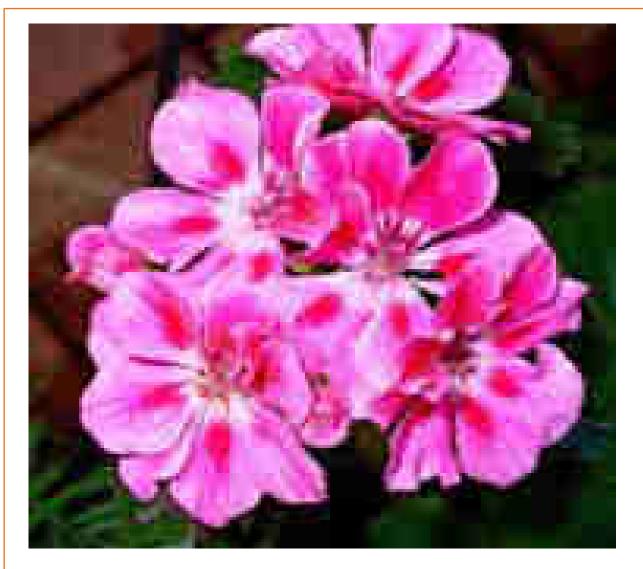


Fig 2.1.1 Geranium

What we have discussed so far are some possibilities and nothing is sacrosanct. One can use one's own imagination to alter one plan or other. Actually landscape design has a wide flexibility and the same plot can be landscaped in two or more different ways. Moreover, opinion varies between one landscape designers to another and hence, the controversy whether a design is perfect will never end. But the basic theories must be followed and the mistakes such as monotony, overcrowding and placing of plants in wrong situations (e.g., a sun-loving plant placed under the shade of the tree) should be avoided. Once the design is decided, the different features such as paths, walls, pools, lawn are constructed as per the procedures suggested in this book. The basic necessities such as irrigation and drainage should also be taken care of.

Trees suitable for small gardens While selecting trees for the home garden the following questions must be answered. First of all, why the tree is needed? Is it for a background or corner planting to frame the house; whether this is needed for shade for sitting or for the terrace and if so, whether grass will grow under shade? Once the questions are answered, the right type of tree has to be selected. Enough room has to be left for the tree to grow. As for example, a 25 x 50 m plot has room only for a large shade tree and two to three small flowering trees. Shallow rooted trees such as *Millingtonia hortensis* should not be planted as they are surface feeders and may be uprooted by storms. Some trees suitable for the garden have already been mentioned in the course of discussion, but some more may be added. *Bauhinias* in different species are quite suitable.

Bottle brush is suitable for many situations. *Tecoma argentea* is a wonderful flowering tree for home gardens around Bangalore. The following trees are also suitable for planting in the home grounds: *Mimusops elengi, Gliricidia maculata, Cochlospermum gossypium, Cassia fistula, and Cassia spectabilis.*



Fig 2.1.1 Bauhinia purpurea



Fig 2.1.1 Cassia fistula



Fig 2.1.1 Cassia spectabilis

Some shrubs may be grown as specimens in the lawn. A few suggested shrubs are *lxora singaporensis*, *Brya ebenus*, *Sophora tomentosa*, *Mussaenda philippica*, *Azalea*, *Cotoneaster horizontalis Rhododendrons* and in different species. The last three are suitable for temperate climates. For shrubbery border a list of shrubs may be made from the chapter on ornamental and flowering shrubs, depending upon situation.

Landscaping a Country Home A villager in India may not need a sophisticated garden as has been discussed in the foregoing pages. However, a countryman will need as much privacy as a city dweller. A village home has to be planned with more utility items. A villager would like to grow more vegetables and fruit for his family consumption and consequently more area should be earmarked for this purpose. But a shade tree or two and some area reserved for children's playground is definitely needed. Some utility flowering trees such as *Michelia champaca, Plumeria acutifolia Hibiscus rosa-sinensis, Tabernaemontana coronaria, Barleria,* and shrubs such as and Jasmines yielding flowers for worshipping and hair decoration should be included for planting. The common flowering annuals such as marigold, zinnia, balsam, and sunflower can be grown for beauty and cut flowers for various purposes.



Fig 2.1.1 Ixora singaporensis



Fig 2.1.1 Mussaenda philippica



Fig 2.1.1 Michelia champaca



Fig 2.1.1 Hibiscus rosa-sinensis



Fig 2.1.1 Tabernaemontana coronaria



Fig 2.1.1 Barleria cristata

2. LANDSCAPING OF INSTITUTE A planned and properly landscaped school building will be different in appearance and beauty than unplanned one. Moreover a good garden in the campus inculcated aesthetic sense to our younger generation. For providing general recommendations, plantation of large trees in school compound in the periphery of the school campus, along the rear and wings, a thick belt of the large shady trees should be planted to bring down noise and cut down storms and dust. This plantation will also help in keeping down severe heat and cold.

The front portion should be planted with medium-sized flowering trees for the purpose of beauty. The trees should not completely choke the view of the building from outside.

For uplifting the scenic beauty, it is also suggested to plant a row of flowering trees, with different blooming seasons, in front of the large trees along the periphery. It is difficult to give any general recommendation regarding the types of such trees, as this will vary according to the architectural design, situation and climate. The object is to provide beauty and comfort depending on convenience.

The roads and paths are to be formally planted with medium to tall flowering plants. Before planting provision should be made for overhead wiring and sewerage so that these do not interface with the avenue planting. Where the electric wires limit the choice of avenue trees, small flowering trees such as Cochlospermum gossypium, Callistemon lanceolatus, Bauhinia variegata, Tecoma argentea and can be planted. The trees should be planted in pure avenues. A lawn looks nice in an educational institution, but is very difficult to maintain. The playground can be planted with lawn, if this can be maintained or should be left bare. A thickly planted belt of eucalyptus for peripheral planting is considered ideal. Silver oak, Polyalthia Samanea saman Cassia fistula, Tecoma argentea, Erythrina indica, Lagerstroemia flos-reginae Bauhinia variegata and are also suitable for this purpose. and are suitable for planting in the front and in the front row of the border planting. The roads and paths are to be formally planted with medium to tall flowering plants. Before planting provision should be make for overhead wiring and sewage so that these do not interfere with the avenue planting. Shrubs play an important part in the school landscaping. Shrub borders round parks or playgrounds is very effective and can replace hedges as the maintenance is minimum. A lawn look nice in an educational institution but it is very difficult to maintain. A bougainvillea creeper trained over the wall of the building can change the whole look. Similarly, a Bignonia venusta supported against a wall also looks beautiful. A creeper climbing with their rootlets such as Ficus repens, Tecoma radicans can also be trained over some stone or brick wall. Besides an ornamental or a landscape garden, universities and colleges can also maintain a botanical garden or a student garden, where the plants are arranged in groups, family wise so that such gardens become educative.



Fig 2.1.1 Bauhinia variegata



Fig 2.1.1 Callistemon lanceolatus



Fig 2.1.1 Lagerstroemia flos-reginae

3. LANDSCAPING OF INDUSTRY In modern times, a factory should not become a place of only machinery, dust, pollution and noise, but should also be provided with nicely laid-out parks and gardens. This is not only needed from the point of beautification, but also to fight pollution and dust. The factories may be broadly categorized into two groups. The first group comprises comparatively neat factories such as a plywood factory or a fruit processing plant which emit less dust and other polluting materials. The second group consists of factories such as cement, steel, fertilizer, etc. which emit a lot of dust, smoke, and harmful chemicals. The primary aim in a factory garden is to plant trees to seize the smoke and drilling dust and to cut down the noise. The second important aim is to provide coolness ample shade so that the workers get a respite under the coolness of trees from the hot interior of the factory. Moreover the trees can bend down the temperature in the factory premises to a considerable extent. The places where garden can be laid in the factory area are canteen, rest-shed, hospital, administrative building etc. It is interesting to note that well landscaped offices tend to have lower cases of absenteeism and job shifting. It has also been found that employees serving in offices featuring colorful landscaped entrances show better productivity. The reason for this can be attributed to the basic fact that humans have a fundamental desire to keep contact with nature. Our perception and moods are highly influenced by the colors we see in and around us Tall and hardy trees such as Casurarina equisetifloia, Eucalyptus, Polyalthia logifolia and Silver oak should be planted all around or in the direction of the winds to stop the spread rows of plants planted in a staggering manner bring down the noise from the factory to the surroundings outside this barrier. Moreover, in a well-planted factory, the trees bring down the zone may be created by afforestation between the factory and its residential colony. Afforestation can be done with hardy ornamentals such as Acacia auriculiformis, Casuarina equisetifolia, Dalbergia sisso, and some other shade trees. Besides planting of trees, a factory area can also be beautified with rockeries, statues water pools or lakes, fountains, etc. Bougainvillea should be used freely to beautify a factory area. Root zone process is a German Technology to treat industrial and domestic waste water economically, efficiently and naturally. Three integrated compounds are essential to this system. They are the reeds, the reed bed and the microbial organisms. Run the contaminated water under the root zone and the reed beds treat the water. The out coming water is clear, odourless and free from contamination which can be used for gardening and farming. Landscaping can hugely enhance the sales appeal of a property thereby increasing the overall property value. The factors that seem to contribute in increasing the property values include greenery, walkways, arches, patios, decks and ponds. Thus there is vast scope for the development of industrial and institutional landscapes. Such landscapes should aim to improve the aesthetic beauty of the place and reduce the pollution.



Fig 2.1.1 Polyalthia logifolia

4. ROOF GARDENING

Garden is an embellished area with plants. The importance of gardening has been well understood by every individual. The gardens not only serve as a place of recreation, it also serves as a place for education by the way of establishing a home garden or botanical gardens. The art of creating the greenery and maintaining the greenery is known as "Roof Gardening". This is also known as Terrace gardening. The existing roof top can be effectively utilized for growing fruit plants, vegetables, spices, homestead medicinal plants, flower plants and ornamental plants. The population explosion occurs every day resulted in the migration of peoples from rural areas to urban areas for income generation. Due to migration of peoples most of the agriculture lands are converted into residential areas, resulted with decreased production of fruits and vegetables. This can be circumvented by kitchen gardening and roof gardening. In urban areas, due to escalating population, more land area is brought under the construction of houses; therefore there is hardly any space for growing vegetables. Especially in multistoried buildings, roof gardening is the only way to grow fruits and vegetables by using the pots and containers. This practice is known as container gardening. Psychiatrist recommends that working in garden refresh the body and mind by reliving harsh stresses. Gardens become the integral part of the family life benefited by the supply of toxic free fresh fruits and vegetables.

Exercise

1. Write a note on Garden Maintenance. Explain ? Answer:

Notes



सत्यमेव जयते GOVERNMENT OF INDIA MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP



Transforming the skill landscape

2.Nursery Management and Propagation of Plant Material



VE2

Unit 2.1 - Nursery Management Unit 2.2 - Plant Propagation



– Key Learning Outcomes 🏹

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

- Prepare nursery bed & seedlings
- Prepare the root stocks and practice Propagation techniques.
- Practice cutting, grafting, budding and layering techniques

UNIT 2.1: NURSERY MANAGEMENT

Unit Objectives Ø

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

- Understand the Nursery bed preparation
- Understand the nursery management practices

2.1.1 Nursery -

A good Nursery is a prerequisite for landscaping or horticulture as a whole. All the good quality forest trees, fruit trees, shrubs and other ornamental plants are propagated from their Mother plant in nurseries. (A mother plant is many years old plant which has best of the traits available in its specie). A nursery is said to be a good nursery when it has good quality plants and good quality plants are propagated from mother plants that have good root system and good scion (i.e. the shoot system



Plants are propagated by various ways like:-

i) Seed propagation:

ii) Asexual propagation:

iii) Micropropagation:

Types of Nurseries: Depending upon the type of plants propagated and developed, various types of nurseries are made such as:-

i) Seasonal flower nursery:

Nurseries where annual flowers are developed from seeds and seedlings. These are based on different seasons like summer annuals and winter annuals and have a life cycle of six months or one year.

ii) Tree Nurseries:

The nurseries are once where tree plants are propagated and developed for sale. It includes fruit trees, forest trees, medicinal trees, plants etc. Mostly trees are propagated vegetatively through cutting, grafting and budding. Fruit nurseries are very important to develop good grafted varieties of fruit trees, root stocks and scion.

iii) Vegetable Nurseries:

Vegetable nursery is important to develop annual and perennial vegetable seedling like tomatoes, cauliflower, chilies, drumsticks, cucumber, beans etc. Since vegetables are staple to India, these nurseries propagate vegetable seedlings on very big scale through seeds.

iv) Herb Nurseries:

Herb nurseries include herb plants, medicinal plants, culinary herbs and aromatic plants. With increase in awareness among general public regarding the benefits of herbs, natural source of medicines and ayurveda, herb gardens are flourishing at a greater speed. To support the increasing demand herbs are propagated either vegetatively through seeds. Many plants are also propagated through micropropagation. Many propagated in herb nurseries are:-

a) Basils

b) Citronella

c) Lemon grass

d) Lettuce

e) Aloe-vera

f) Mint

g) Rosemerry

h) Stevia, etc.

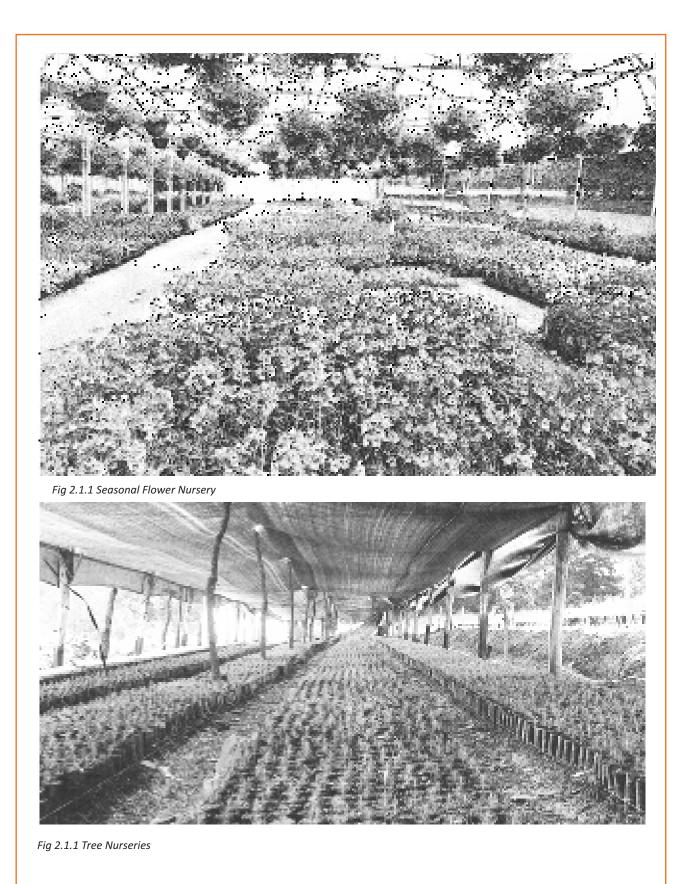




Fig 2.1.1 Herb nurseries

v) Tissue Culture and Polyhouse Nurseries:

With increase in demand of certain plants commercially, they are propagated through micro propagation or tissue culture, for example: Banana, Papaya, Gerbera etc. Through tissue culture, millions of plants, tree seedlings can be propagated in very less space. In such Hi-tech nurseries hardening of tissue cultured plants is done by keeping them in shade nets and poly houses. These poly houses and shade nets have the ability to provide high humidity, modify temperature and prevent the plants from direct sunlight. All the shade loving plant or plants that are grown in adverse climatic conditions make use of shade nets and poly houses respectively. Based on the sale of plants, a nursery can either be whole sale nursery or a retail nursery.

Wholesale nursery: Plants which are sold for commercial purpose in huge amounts at very reasonable rates are known as wholesale nursery. In wholesale nursery, the quantity of every variety available is more.

Retail Nursery: Plants which are available to general public at a fixed cost higher than wholesale nursery but are available in small quantity. In retail nursery, number of varieties of plants are more than their quantity unlike wholesale nursery.

Prerequisites for a good nursery:-

i) Good Site: For nursery the site selected should have few things available like ample amount of good quality water with good drainage facility. Also since nurseries are used for propagation, it should have some sort of natural shade or provided proper artificial shade through shade nets. The soil at the site of nursery should be rich in organic matter, should have proper texture i.e. not too clayey or not too sandy.

ii) Beds in the nursery: All the seedlings are prepared or different types of propagations are carried out in beds especially of approximately dimension 5m in length and 1m in width under shade net. Beds can be either raised beds or flat beds. Raised beds are generally raised to a height of 6 to 8 inches. The soil used to prepare beds should be of very fine quality and hence is prepared by mixing proportionately sand, clayey soil and compost in the ratio of 1:2:1. Also soil should be well treated with pesticides like formaldehyde and chlorpyrifos. These raised beds have a good drainage property. During monsoon they don't get water logged and the excess water runs off. Raised beds assure uniform availability of water to the propagating plants and hence high germination percentage. Other field activities like weeding is very easily done. Other type of Beds made in nurseries are flat beds of size 5m x 1m. Use of raised bed or flat beds depends upon type of propagation of plants carried out in the shade net. Similarly depending upon the type of propagation, different growing mediums are prepared:

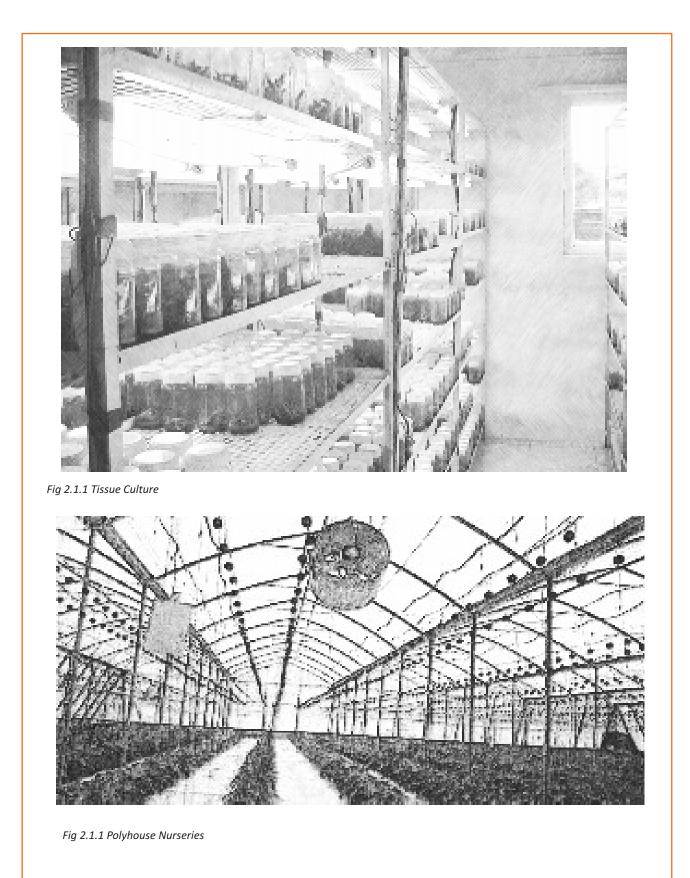




Fig 2.1.1 Whole sale Nursery



Fig 2.1.1 Retail Nursery



Fig 2.1.1 Site selection for Nursery Preparation

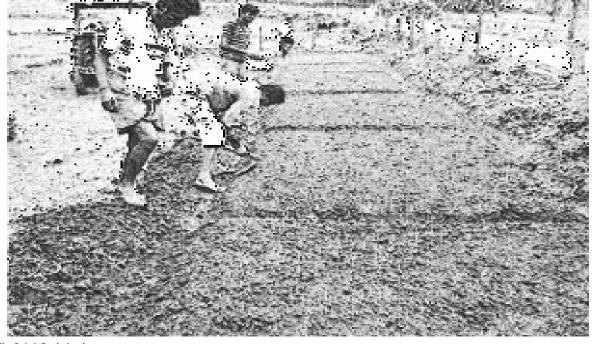


Fig 2.1.1 Beds in the nursery

Growing Medium: A growing medium is a mixture of soil, sand, peat moss or cocopeat, vermiculite, perlite and compost. These constituents are mixed in different proportions to form appropriate growing medium. Example for propagation of plants: Clay soil + sand + compost is mixed in the ratio of 2:1:1. A growing medium is good for propagation if it has following characteristics:-

i) Adequately porous for proper drainage of excess water, however should possess high moisture retaining capacity as well for rooting and germination.

ii) The medium should be free from unwanted seeds of weeds, nematodes and other pathogens.

iii) The medium should be strong enough to hold the cutting in position during rooting and germination

Various containers are used in the nurseries for propagating ploants.

i) Terracota pots:

These pots are made up of natural earth and are finely porous to allow the plant inside the pot to respire and keeps the plant cool during very hot weather. Mostly annual flowers are prepared in terracotta pots like marigold, salvia, petunia, dahlia, chrysanthemum etc.

ii) Seed Pan:

Seed pan are also made up of terracotta with a centre hole to allow drainage. Seed pans are approx. 4 to 5 inches deep and 14" inches diameter. These are used for growing seeds and prepare seedlings. On the same lines are made seed boxes which are made up of cardboard of dimensions like 18" in width and 24" in length.

iii) Polythene bags:

Another very common containers used to propagate cutting, grafting etc. are punctured poly bags. Holes in the poly bags are made for adequate drainage. The rooting medium in the poly bags is generally little porous to allow the faster new roots develop and establish faster.

iv) Plastic Trays:

These trays are mostly used for growing seedling from seeds. Vegetable seedlings, flower seedlings etc. are grown in the pockets of these trays filled with a medium of cocopeat and vermiculite and perlite. These are very portable and easy to transport from one place to another. Since we can shift the trays and prevent them from adverse climatic conditions, the germination percentage is almost 100%.



cocopeat



Soil

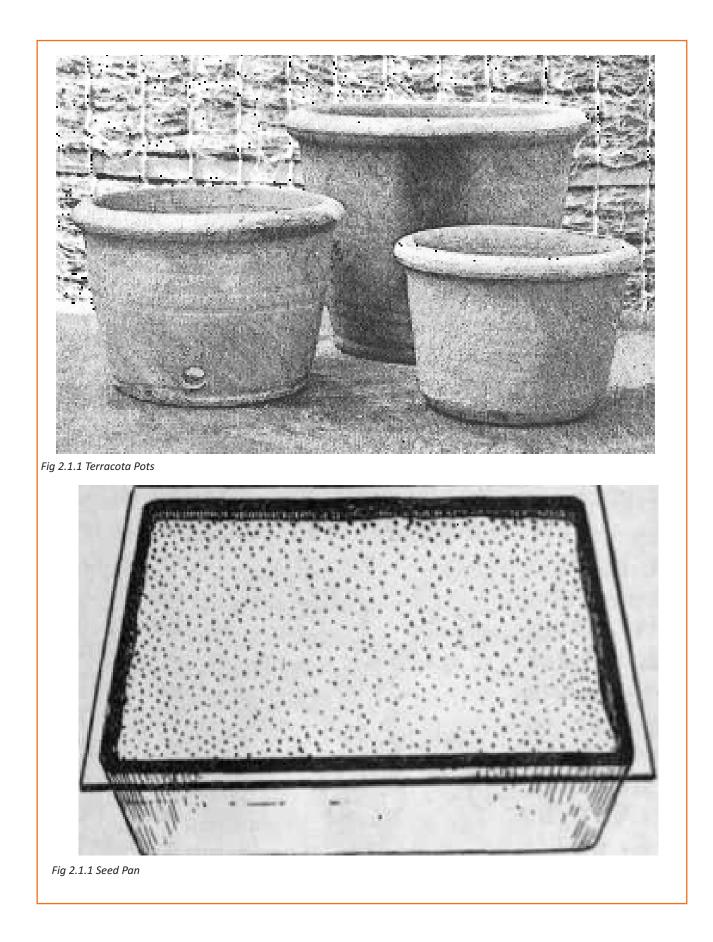


Sand

perlite

vermiculite

Fig 2.1.1 Growing medium





- 2.1.2 Tools and equipments used in Nursery

i) Water Can:

Rain like small droplets fall from water can when water is poured over small seedlings, cuttings and nursery plants. Water Can with a funnel helps in uniform water spread without damaging the tender seedlings.

ii) Hand Trowel:

This is the most handy tool while working in nurseries. Any sort of digging holes for plantation or uprooting any plant for transplanting, hand trowels are used. They have a wooden handle for a fast grip at the back and iron front for digging.

iii) Secateur:

Commonly known as cutter. Secateur is used for cutting of their branches, pruning, making cuttings etc. Technically it is a very important tool in propagating of plants.

iv) Budding or Grafting Knife:

Knife used for budding, granting and peeling of the bark.

v) Shovel

Shovel is used mostly to lift soil and dig big pits or for preparation of beds.

vi) Rake

Rake is a tool with 8-10 inches long multiple teeth used to hoe the soil and remove weeds without disturbing roots and collect the dead leaves that become the habitat for pathogens.

Maintenance of Tools and Equipments:

Maintaining nursery toots is important to prevent their wear and tear, increase their life and prepare the tools for next time use. There are few basic points to be remembered and executed in order to add more years to any garden tool and equipment and its proper functioning:-

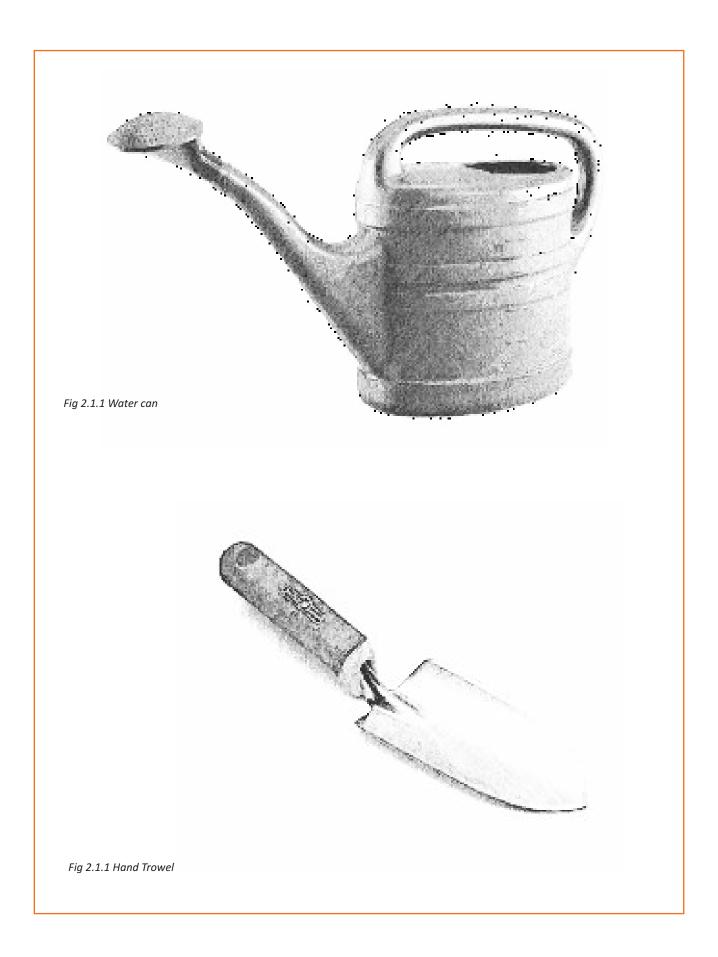
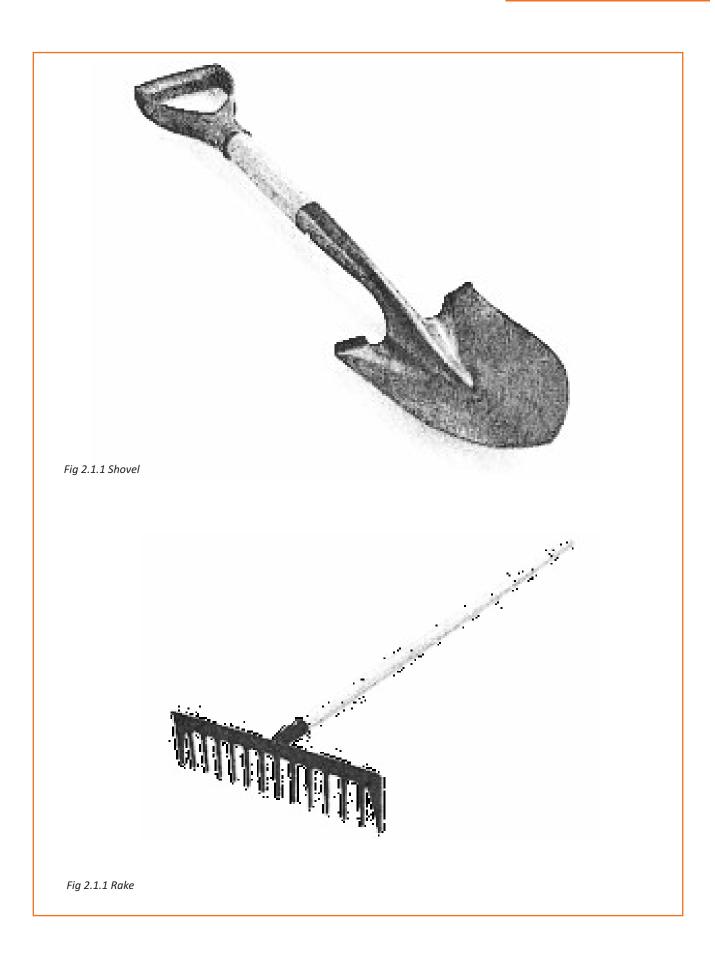




Fig 2.1.1 Budding or Grafting Knife



i) Remove the soil and planting material from the tool after use:

Tools used for digging mud like tromel, spade, rake, hoe, weeder etc. and tools used for cutting, pruning, like shears, loppers, scateurs etc. should be made free of soil and planting material attached to their metal parts. Dried mud should be scratched off and small amount of dead leaves / chlorophyll on the blades should be removed after.

ii) Dry Wet Tools:

After washing the tools, the should be left to dry completely before storage. This will prevent rusting of tools for wooden parts of the tool, rubbing of linseed oil once in two months will help. Preserve them for long.

iii) Wipe the tool:

After drying the tool, it should be wiped all over with a dry cloth and spray any penetrating oil like WD[®] over the metal parts. This is important for proper functioning of the tools.

2.1.3 Nursery Management

Once the seedlings in the beds have strengthened, seedlings are prepared from seeds and hardening of cultured seedlings is done, a proper maintenance and take care of the nursery is very important. Proper hygiene and cleanliness is very important to keep the nursery plants free from pests and deceases. Nursery Management includes all the operations from raising healthy seedlings to transplanting and repotting of the small plants and seedlings either for commercial sale or for transplanting in fields.

Field operations important in Nursery Management:

i) Potting the seedlings: Using the appropriate growing medium i.e. a mixture of soil + cocopeat + compost + vermiculite in the ratio of 2:1:1 is to grow the seedlings or transplanting the seedlings from trays in the pots timely is very important. Potting done in off seasons does not lead to healthy plant propagation and development

ii) Manuring & Irrigation: Young plants need heavy feeding for healthy growth. Frequent but light manuring or fertilizer sprays is more effective than drenching the beds with nutrients at once. Generally in beds sufficient amount of compost is added in the beginning, however top feeding of nutrients NPK and DAP has added benefits. Bavistin is generally added along the roots after transplantation of seedlings to avoid root decay and help in vigorous growth of root system. Irrigating timely during the evening hours or early morning using water Can or hose pipe with funnel at low pressure is ideal. High pressure of water can damage the tender stems of the seedlings.

iii) Plant Protection:

This is one of the most important Nursery operation. Since the nurseries generally have a controlled temperature and high humidity, the plants are prone to pest and disease infestation. Timely spray of fungicides, insecticides and regular inspection of the plants is the key for healthy development of seedlings. Major diseases of seedlings grown in Nurseries are:-

i) Damping Off:

Damping off is a decease caused in seedlings due to water logging followed by fungal or bacterial infection. In damping off the seedlings are decayed from the neck region of the root and stem. This disease is most common in nurseries. Hence proper precautions should be taken while raising the seedlings in nurseries like:-

i) Growing healthy and disinfected seeds.ii) Treating the cuttings with fungicide for healthy root development.

Iii) Ensure well drained seed beds and avoid over irrigation and water logging by raising beds and using proper decomposed compost and disinfected growing medium.

iv) Keep a check of N² fertilizer and avoid its excess ue.

v) Exposing the soil to sun in summers and avoiding growing of same seedlings year after year in the same soil to avoid problem of pathogens like nematodes.

vi) Planting the seeds and transplanting seedlings when the soil temperature is congenial and not cold.

vii) Maintaining proper sanitation and cleanliness in the nursery by removing and discarding dead and diseased plants.



Fig 2.1.1 Damping off

ii) Disinfection of seeds:

Seeds are treated with formal dehyde before sowing to prevent it from fungal infestation while germinating. Disinfection of seeds is also done by hot water treatment.

iii) Soil treatment:

Soil is the breeding ground for many fungi, bacteria, nematodes and other insects and pests. Hence it is very important to treat soil and enhance healthy growth of nursery plants. Soil can be treated by solarization or exposure to sun using chemicals like formaldehyde, Redomil etc. Common diseases besides damping off are:

a) Powery mildew, b) yellow vein mosaic, c) Leaf spot and d) bacterial blight etc.

iv) Weed control:

Seedlings are heavy feeder and competing with weed for food nutrients and water can lead to their unhealthy growth and development. Weeds are generally controlled manually using mulch and weedicides, like basaline and round up.

v) Controll of temperature:

Nursery plants are tender and very sensitive to extreme heat and cold. For their fast growth temperature is regulated and controlled by developing shade nets, poly houses and green house.

vi) Commercial Management:

The ultimate target of growing nursery plants is to sell and generate revenue. Commercial management includes operation like proper packaging, sale management. Seedlings are generally packed in cartons to avoid damage to them during transportation. Exotic plants developed are packed either in carton or wooden boxes after being wrapped in plastic bags to avoid shaking of plant root ball from its position and safe travel. Sale management includes proper marketing of the products and catering to the demands.

Exercise

1. List out the Tools/ equipments required for the Nursery Management.
Answer:
2. Write a note on Types of Nurseries.
Answer:

Notes	
<u> </u>	

UNIT 2.2: Plant Propagation

Unit Objectives Ø

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

- Prepare the root stocks and practice Propagation techniques.
- Practice cutting, grafting, budding and layering techniques

2.2.1 Plant Propagation Techniques

Propagating plants is an inexpensive and easy way to get new plants from plants you already have. This asexual means of reproduction produces a plant that is genetically identical to its parent. There are a variety of plant propagation tools and methods; from taking cuttings to layering to dividing and more. The technique you select will depend on the type of plant you wish to propagate and the amount of time and effort you want to put into it.

Rooting Media

The potting soil, or medium in which a plant grows, must be of good quality. It should be porous for root area on and drainage, but also capable of nutrient retention and water. For a plant to form a new root system, it must have a ready moisture supply at the cut surface. Oxygen is required for all living cells. The coarsetextured media choices often meet these requirements. Most commercially prepared mixes are termed artificial, which means they contain no soil. The basic ingredients of such a mix are sphagnum peat moss and vermiculite, both of which are generally free of diseases, weed seeds, and insects. Rooting media for asexual propagation should be clean and sterile. Cuttings are not susceptible to damping-off, but they are attacked by other fungi and bacteria which may come along in the medium. Most commercially prepared media are clean when purchased. The media should be low in fertilizer. Excessive fertility will damage or inhibit new roots. High-quality artificial mixes sometimes contain slow-release fertilizers. Coarse perlite alone can be used to start some cuttings. This doesn't hold much water for long, but it is fine for rooting cuttings of cactustype plants which would ordinarily rot in higher moisture media. Coarse vermiculite alone has excellent water-holding capacity and aeration, but may dry out rapidly via. evaporation if not covered in some way. A mix of 50% peat moss and 50% perlite favors good aeration. An equal mix of peat moss, vermiculite, and perlite is also good and favors moisture retention. Plain water can be used to propagate some cuttings. This is possible and actually works quite well for some species which root easily. It certainly provides the needed moisture, but if the water is not changed on a weekly basis, it will become stagnant, oxygen deficient, and inhibitory to rooting. Furthermore, roots produced in 100% water are different from those produced in solid media; they may undergo greater transplant shock with a greater incidence of death. So, it is not the most desirable methodfor most plants, but certainly feasible.

Rooting Enhancement Conditions Once you've selected the right medium, your first priority is to get roots produced as quickly as possible. The consequences of slow rooting may be death because the cutting must rely on its limited water reserves. Water is required for major chemical reactions in plants which will be shut down in its absence. Even though the exposed cells on the cut surface of the cutting ordinarily transport water throughout the plant, they are not equipped to adequately absorb it from the medium. This can only be done in most plants by roots, and particularly root hairs. Root hairs are tiny, single cell projections from the root ends or tips. Make sure the medium is moist prior to inserting cuttings.. If not completely moist, then the surface which has cut, may contact the dry pocket and have its own water absorbed by the medium component. Try to keep both the air and medium temperature. warm: 70-75°F. Higher temperatures enhance growth, but excessively high temperatures do not allow for photosynthesis to keep up with food breakdown in normal cell energy use (respiration). You can buy electric heating pads to put beneath containers holding cuttings to maintain a constant temperature. but not direct light. An east window is fine but a west window is too warm and a south facing window too bright. North is too dim. One way to provide good environmental conditions for asexual propagation by cuttings is through the use of a mist bed. This system sprays a fine mist of water over the cuttings once every few minutes, and the time is adjustable. It should only be on during the day, as nighttime operation would keep the medium too wet and encourage rotting. Misting inhibits transpiration and forces the plant to conserve water while it forms new roots. If a mist system is unavailable, one can be imitated in a small propagation tray in the home. Choose an appropriate medium, moisten it, and place it in a tray. Place the tray in a perforated or slitted clear plastic bag. This increases the relative humidity and inhibits water loss by the plant and medium, yet allows air circulation. Tug gently at the cuttings after 2-3 weeks to test for rooting and transplant to individual pots when roots resist your tugs. Dig them out, do not pull them out! Different plants require different rooting times, so do not expect them all to root at the same time.

Cuttings

Many types of plants, both woody and herbaceous, are frequently propagated by cuttings. A cutting is a vegetative plant part which is severed from the parent plant in order to regenerate itself, thereby forming a whole new plant. Take cuttings with a sharp blade to reduce injury to the parent plant. Dip the cutting tool in rubbing alcohol or a mixture of one part bleach to nine parts water to prevent transmitting diseases from infected plant parts to healthy ones. Remove flowers and flower buds to allow the cutting to use its energy and stored carbohydrates for root and shoot formation rather than fruit and seed production. With large-leaved cuttings (i.e., Rhododendron) and limited space in the propagation container, trimming up to half the leaf length can improve efficiency, as well as light and air circulation for all the cuttings. To hasten rooting, increase the number of roots, or to obtain uniform rooting (except on soft, fleshy stems), use a rooting hormone, preferably one containing a fungicide. Prevent possible contamination of the entire supply of rooting hormone by putting some hormone in a separate container for dipping cuttings. Discard this hormone after all the cuttings are treated. Place stem and leaf cuttings in bright, indirect light. Root cuttings can be kept in the dark until new shoots appear.

Stems Cuttings

Numerous plant species are propagated by stem cuttings. Most can be taken throughout summer and fall, but stem cuttings of some woody plants root better if taken in the fall or in the dormant season. Success with herbaceous plants is generally enhanced when done in the spring; these plants are actively growing then, and more apt to root quickly on their own. There are several different types of stem cuttings depending on the part of the stem needed. At least one node (the point on a stem where leaves are attached and buds form) should be below the media surface. Although some plants root at internodes (the space between nodes), others only root at nodal tissue.

Tip cuttings

Detach a 2- to 6-inch piece of stem, including the terminal bud. Make the cut just below a node. Remove lower leaves that would touch or be below the medium. Dip the stem in rooting hormone if desired. Gently tap the end of the cutting to remove excess hormone. Make a hole in the medium with a pencil or pot label, and insert the cutting deeply enough into the media to support itself.

Medial cuttings (also stem-section cuttings)



Make the first cut just above a node, and the second cut just below a node 2 to 6 inches down the stem. Prepare and insert the cutting as you would a tip cutting. Be sure to position right side up. Buds are always above leaves. Make sure the cutting is inserted base down.

Cane cuttings

Cut cane-like stems into sections containing one or two eyes, or nodes. Dust ends with fungicide or activated charcoal. Allow to dry several hours. Lay horizontally with about half of the cutting below the media surface, eye facing upward. Cane cuttings are usually potted when roots and new shoots appear, but new shoots from dracaena and croton are often cut off and rerooted in sand.

Single Eye

The eye refers to the bud which emerges at the axil of the leaf at each node. This is used for plants with alternate leaves when space or stock material are limited. Cut the stem about 1/2 inch above and 1/2 inch below a node. Place the cutting horizontally or vertically in the medium with the node just touching the surface.

Double Eye

This is used for plants with opposite leaves when space or stock material is limited. Cut the stem about 1/2 inch above and 1/2 inch below the same node. Insert the cutting vertically in the medium with the node just touching the surface.

Heel cutting

This method uses stock material with woody stems efficiently. Make a shield-shaped cut about halfway through the wood around a leaf and axial bud. Insert the shield horizontally into the medium so that it is completely covered. Remove any leaf blade but keep a portion of the petiole intact for ease in handling this small cutting.

Leaf Cuttings

Leaf cuttings are used almost exclusively for a few indoor plants. Leaves of most plants will either produce a few roots but no plant, or just decay.

Whole leaf with petiole

Detach the leaf and up to 1 1/2 inches of petiole. Insert the lower end of the petiole into the medium. One or more new plants will form at the base of the petiole. The leaf may be severed from the new plants when they have their own roots, and the petiole can be reused. (Example: African violet).

Whole leaf without petiole

This is used for plants with sessile leaves (no stalk or petiole). Insert the cutting vertically into the medium. A new plant will form from the axillary bud. The leaf may be removed when the new plant has its own roots. (Example: donkey's tail).

Split vein

Detach a leaf from the stock plant. Slit its veins on the lower leaf surface. Lay the cutting, lower side down, on the medium. New plants will form at each cut. If the leaf tends to curl up, hold it in place by covering the margins with the rooting medium. (Example: Rex begonia).







Leaf sections

This method is frequently used with snake plant and fibrous rooted begonias. Cut begonia leaves into wedges with at least one vein. Lay leaves flat on the medium. A new plant will arise at the vein. Cut snake plant leaves into 2-inch sections. Consistently make the lower cut slanted and the upper cut straight so you can tell which is the top. Insert the cutting vertically. Roots will form fairly soon, and eventually a new plant will appear at the base of the cutting. These and other succulent cuttings will rot if kept too moist. (Note that with variegated snake plant, the new shoot will develop from cells that do not display the variegation.)

Root Cuttings

Root cuttings are usually taken from 2- to 3-year-old plants during their dormant season when they have a large carbohydrate supply. Root cuttings of some species produce new shoots, which then form their own root systems, while root cuttings of other plants develop root systems before producing new shoots.

Plants with large roots:

Make a straight top cut. Make a slanted cut 2 to 6 inches below the first cut. Store about 3 weeks in moist sawdust, peat moss, or sand at 40°F. Remove from storage. Insert the cutting vertically with the top approximately level with the surface of the rooting medium. This method is often used outdoors. (Example: horse radish).

Plants with small roots

Take 1- to 2-inch sections of roots. Insert the cuttings horizontally about 1/2 inch below the medium surface. This method is usually used indoors or in a hotbed. (Example: bleeding heart).

Layering

Stems still attached to their parent plants may form roots where they touch a rooting medium. Severed from the parent plant, the rooted stem becomes a new plant. This method of vegetative propagation, called layering, promotes a high success rate because it prevents the water stress and carbohydrate shortage that plague cuttings. Some plants layer themselves naturally, but sometimes plant propagators assist the process. Layering may be enhanced by wounding one side of the stem or by bending it very sharply. The rooting medium should always provide aeration and a constant supply of moisture.









Gardener

Tip layering

Dig a hole 3 to 4 inches deep. Insert the shoot tip and cover it with soil. The tip grows downward first, then bends sharply and grows upward. Roots form at the bend, and the recurved tip becomes a new plant. Remove the tip layer and plant it in the early spring or late fall. Examples: purple and black raspberries, trailing blackberries.

Simple layering

Bend the stem to the ground. Cover part of it with soil, leaving the last 6 to 12 inches exposed. Bend the tip into a vertical position and stake in place. The sharp bend will often induce rooting, but wounding the lower side of the branch or loosening the bark by twisting the stem may help. Examples: forsythia, honeysuckle.

Compound layering

This method works for plants with flexible stems. Bend the stem to the rooting medium as for simple layering, but alternately cover and expose stem sections. Wound the lower side of the stem sections to be covered. Examples: pothos and heart-leaf philodendron.

Mound (stool) layering

Mound (stool) layering is to cut the back of the plant to 1 inch above the ground in dormant season. Mound soil over emerging shoots in the spring for enhancing their rooting. Examples: gooseberries, apple rootstocks.

Air layering

Air layering generally used to propagate few of thick stem indoor plants and / or to rejuvenate them when it becomes leggy. Slit the stem just below a node.

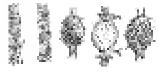
Plants to Propagate

Layering:

Tip purple and black raspberries, trailing blackberries Simple forsythia, honeysuckle, spider plant, mostvine- type plants (philodendron, grape ivy, devilos ivy, swedish ivy, etc.) Compound heartleaf philodendron, pothos Mound gooseberries, apple rootstocks Air Layering plants with rigid stems such as dieffenbachia, ficus, rubber plant, aralia, croton



State States





Division

Propagation from the following plant parts can be considered a modification of layering, as the new plants form before they are detached from their parent plants.

Stolons and runners

The Stolons and Runners. A stolon is horizontal, often a fleshy stem that can be rooted, then producing new shoots where it touches the medium. A runner is slender stem which originates in a leaf axil and grows along the ground or downward from the hanging basket results in producing a new plant. Plants which produce runners or stolons, propagated by severing the new plants from their parent stems.

Plantlets at the tips of runners may berooted while still attached to the parent, or detached and placed in a rooting medium. Examples: strawberry, spider plant.

Offsets

Plants with a rosetted stem often reproduce by forming new shoots at their base or in leaf axils. Sever the new shoots from the parent plant after they have developed their own root system. Unrooted offsets of some species may be removed and placed in a rooting medium. Some of these must be cut off, while others may be simply lifted off the parent stem. Examples: date palm, haworthia, bromeliads, many cacti.

Seperation

Separation is a term applied to a form of propagation by which plants that produce bulbs or corms multiply.

Bulbs

New bulbs beside the originally planted bulb. Separate the bulb clumps every 3 to 5 years for the largest blooms and to increase the bulb population. Dig up clump after the leaves have withered. Gently pull the bulbs apart and replant them immediately so their roots can begin to develop. Small or new bulbs may not flower for initial 2 or 3 years, but large ones should bloom in the first year. Examples: narcissus and tulip.

Corms

A new corm forms on the top of old corm, and tiny cormels form around the large corm. As the leaves wither, dig up corms and allow them to dry in indirect light for 2 or 3 weeks. Cormels are to be removed and then gently separate new corm from the old corm. Dust all the new corms with fungicide and store in a cool place until they planted. Examples: crocus, gladiolus. **Crowns**

The Crowns Plants which are more than one rooted crown should be divided and the crowns to be planted separately. If the stems aren't joined, then gently pull the plants apart. If crowns are united by the horizontal stems, then cut the stems and roots with a sharp knife to minimize any kind of injury. The divisions of some outdoor plants should be dusted with a fungicide before it is replanted. Examples: snake plant, iris, prayer plant, day lilies.





Division:

Stolons/Runners strawberry, begonia, spider plant

Offsets	date palm, haworthia, bromeliads, cacti and succulents,
Bulb	tulip, narcissus, hyacinth, amaryllis, lilies
Corm	crocus, gladiolus, freesia
Crowns	sansevieria, iris, prayer plant, day lilies, boston fern, cast iron plant, peace lily

Asexual Propagation of Perennials Division

Most perennials left in the same place for more than 3 years are likely to be overgrown, overcrowded, have dead or unsightly centers, and need basic fertilizer and soil amendments. The center of the clump will grow poorly, if at all, and the flowers will be sparse. The clump will deplete the fertility of the soil as the plant crowds itself. To divide the mature clumps of perennials, select only vigorous side shoots from the outer part of the clump. Discard the center of the clump. Divide the plant into clumps of three to five shoots each. Be careful not to over-divide; too small a clump will not give much color the first year after replanting. Dividing of the perennials when plants are dormant which is exactly before the new season of growth, or in the fall so it can become established before the ground freezes. Dividing of the stagger plant so as the whole garden would not be redone at the same time; good rotation will yield a good display of flowers each year. It is suggested not to put all the divisions back into the same space that contained the original plant. That would place too many plants in a given area. Give extra plants to friends, plant them elsewhere in the yard, or discard them.



Cuttings

Many plants can be propagated from either tip or root cuttings. Generally, tip cuttings are easier to propagate than root cuttings. Select second growth of dianthus, candytuft, and phlox for cuttings. Make tip cuttings 3 to 6 inches long. Treat the base of the cutting with a root stimulant. Leave all foliage on the cutting except the part that will be below the soil line. Insert one cutting per peat pot. Place peat pots of tip cuttings in a lightly shaded place. Cover with a sheet of clear plastic. Check regularly to make sure the cuttings do not dry out. When cuttings do not pull easily out of the soil, they have begun to root. Make holes in the plastic sheet to increase the exposure of the cuttings to the air. This will harden the cuttings. Every few days, enlarge the holes or make new ones. Make root cuttings of phlox, baby's breath, and oriental poppy. Dig the plants in late summer after they have bloomed. Select pencil-sized roots; cut them into 4-inch sections. Put each piece in a peat pot. Prepare a tray of peat pots as for seeds, except the soil mix should be 2 parts sand, 1 part peat moss. Water thoroughly.

Budding:

Budding is of propagation where one bud is crafted in the root stock to form shoots in future. There are different types of budding:-

i) T-Budding – Since in this method a T-shaped cut is made to insert a bud, it is known as T-budding. It is also known as shield budding.

Steps of T-Budding:

a) A healthy root stock is taken and 12-15 inches above the ground a horizontal cut of 1-2 cm (approx.) is made.

b) From the middle of this horizontal cut a vertical cut is made down of approx 2-2.5 cm.

c) A bud is removed from the desired shoot of mother plant. This bud is of the similar size as that of the cut made in the root stock. For removing the bud, a horizontal is given above and below the bud at a distance of approx. 2 cm.

d) Using a budding knife, this bud is sliced along with the wood.

e) This bud is then inserted in the T-shaped cut of the root stock by lifting the flaps to from a bud union.

f) This bud union is then tied / shielded with a piece of polythene stip joining the two components firmly together leaving the bud exposed as shown in the figure.

- Patch Budding: In this type of budding a rectangular patch of about (1-1.5) cm vide and 2.5 cm long is removed from the root stock. This patch is transferred to root stock and is fixed there. Then, it is immediately tied with polythene strip.

- Chip budding: In this method, bud from the shoot is removed such that it matches the cuts made in the root stock. Then, the chip with a bud is fixed into the cut. The bud, at last, is tied with a polythene strip.

Grafting:

In this method, two plants are joined together such that they unite and continue their growth as a single plant. Various types of grafting are:

i) Tongue Grafting – A long slanting cut of about 4-5 cm is made on the root stock. Another downward cut approx. 1/3rd from the top is made. The scion having 2-3 buds is fitted with the root stock, which is then wrapped with polythene strip.

ii) Cleft Grafting – In this method, stock upto 8 cm thick is grafted. The root stock which is to be grafted is cut and split in the middle down about 4 cm. The bud stick is then trimmed.

iii) Approach Grafting – Since root stock is approached to the scion, while it is still attached to the mother plant, this method is known as approach grafting. A slice of bark along with a piece of wood is removed from the stock and scion. They are then tied together with polythene strip for the union. The union completes in about 2-3 months. A cut is made to the shoot about half way through its thickness. It is also known as inarching.

iv) Veneer Grafting

In this method, a veneer downward cut is made on the root stock at about 15-20 cm high from the ground. At its base, a short inward cut is made to make way into the first cut to remove a piece of wood bark. The scion prepared is then fitted into the root stock and tied with polythene strip.

Runner:

Runners are special organs which develop from the crown of the plant and spread horizontally like in strawberries. These runners can be detached from the plant and transplanted to develop a new plant. In short, they reproduce the plant with the same trait.

Sucker:

Sucker is a type of shoot which develops on a plant below the ground. These scions are then separated from the mother plant and transplanted. Sucker formation takes place in fruit plants like pear, banana etc. Tissue Culture: It is a technique wherein millions of plants are propagated in laboratories using small propagating material from the mother plant.

These progenies developed through Tissue Culture are true to type and mostly disease – free. In later stages, the small plants developed in laboratories are transferred to poly houses for hardening and then to the shade houses for further development and sale.

Advantages:

- Used to conserve rare species
- Plants in large numbers for commercial purpose can be produced.
- Gives you true to type varieties.



1. Write a note on Types of garden. Answer:	

Notes



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Transforming the skill landscape



VE)

3.Designing of Garden Components

Unit 3.1 - Garden Design Unit 3.2 - Components of a garden



- Key Learning Outcomes 🏹

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

- Understand the different types of Garden
- Plan for the Design and Layout of Gardens.
- Layout & prepare the lawn
- Layout of orchard, plant fruit plants in the field
- Understand the different components of garden.
- Implement the techniques to beautify the gardens etc

UNIT 3.1: Designing of Garden Components

Unit Objectives Ø

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

- Understand the garden designing
- Understand the garden components
- Understand the different types of garden

3.1.1 Garden Design

Garden Design

Garden Design is an arrangement of various garden components like trees, shrubs, ground covers, rocks, water body, fountains, pathways, gazebos, topiaries etc. in and around the buildings in such a way that it looks unique, beautiful and serves the purpose for which it is being made. Example - Children's park, residence, vegetable garden, farmhouse etc.

Layout of a garden

Layout of a garden is a plan or a drawing made to explain a gardener, a contractor or any layman that which component or feature of the garden is to be placed where while developing it on the ground. A layout helps to understand at what distance various trees, shrubs, topiaries, hedges, ground covers etc. are to be planted, thus helping to determine the exact quantities of various plants required. Similarly, a layout plan also makes it easier to understand the exact position of various buildings, pathways, gazebos and other concrete features, thus helping in proper positioning of plants on the ground.

Process of making a design

Designing process begins with examining the site, taking inputs from the customer, understand their requirements, analyze whether the garden is for a commercial purpose or residence. Once all the requirements and inputs are noted, then a preliminary design is made and with repeated consultations with the customer, a concept drawing is finalized.

The concept drawing illustrates various species of plants selected, different features that are a part of the drawing like gazebo, swimming pool, fencing, hedges etc. Followed by the concept drawing, there are different working drawings made which illustrates every element of the landscape design in detail. As a example working drawing of irrigation will include a complete layout of all the pipelines layed for various uses and where are the hydrants, bends, outgoing pipes, supply lines etc. Other working drawing can be of lights, planting plan of plants, hard scape like pathway, water harvesting tank under the ground etc

Site examination

Examination of the site means understanding the details of the existing property on which a garden has to be developed. Suppose, a client has a requirement of a front lawn. Then while examining the site, we shall see what are the existing features in the property like location of the house, its entrance, big trees, parking area etc. Out of all these which are to be kept and which all features can undergo change or can be removed. While examining the site it is also important to study the scenic beauty and directions as in north, west, east and south. Sun movement and directions tells us about the shady and sunny regions according to which the placement of shade loving and sun loving plants is decided. In case the property has many structures, then the measurements of the structures and distances between them is also obtained. While examining the site various aspects like different elevations, direction of the slope, soil texture, fertility are also noted.

List of items to be observed while examining a site (Checklist)

- (I) Existing trees
- (ii) Existing shrubs
- (iii)Location of building
- (iv) Other plantation
- (v) Walkways and roads
- (vi) Other structures on the property
- (vii) Irrigation and electrical lines above and under the ground.
- (viii) Property markings
- (ix) Soil texture and fertility
- (x) Views to be hidden or screened
- (xi) Style of the house

Client/Customerinputs

Taking inputs from the customers and understanding their needs and requirement is one of the most important aspects of garden design. It is important to learn about their taste, likes and dislikes in a garden space, any particular or specific requirements or utility of place that they wish to have.

List of items to be asked by Customer

- (i) Choice / selection of plant varieties.
- (ii) Preference of type of a garden formal / informal.
- (iii) Public and private area
- (iv) Kids area
- (v) Vegetable / Herb garden
- (vi) Lights
- (vii) Fruit trees or only ornamental plants.
- (viii) Flower beds for annual flowers
- (ix) Gazebo or pergola requirement or any other sitting area
- (x) Size of gatherings for party purpose
- (xi) Other utility areas
- (xii) Pet space
- (xiii) Fences
- (xiv) Areas to be screened
- (xv) Desirable views if any

Once all the objectives are listed in order to design the landscape garden, then a program is made. In this program we decide what items are to be brought from outside and what all things are to be from the existing property. This is done so that the land could be made clear of unwanted items and further preparations of planting plan can be carried out.

Type of drawings

After collecting the details of the site and noting down the customer's inputs and concerns, the process of making the drawing starts.

(I) Rough sketch

While examining the site, penning down the location of buildings, big trees, roads, driveway, measurements and distance between different structures are roughly noted on the paper in the form of a rough sketch.

(ii) Concept drawing

Keeping in mind all the likes and dislikes of the customer and various challenges, a concept drawing is made. The concept drawing involves the artistic creativity of the architecture and with repeated interaction with the customers, the final layout of the garden is designed, showing various trees, hedges, shrubs, ground covers, structures, buildings, waterbody etc.

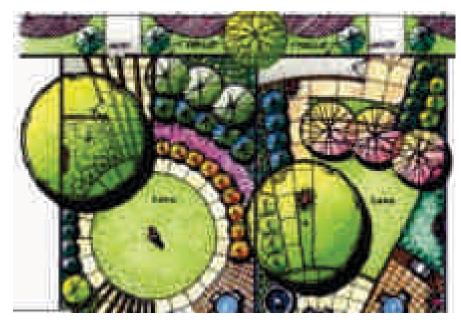


Fig 3.1.1 Garden Designing

In short the concept drawing is a plan showing how the garden will appear from top putting all the elements together.

In short the concept drawing is a plan showing how the garden will appear from top putting all the elements together.

Working drawing

Besides plants, there are few more sections that are very important to understand and incorporate in the final design and is described in detail in the working drawing. Therefore working drawing is a detailed and an elaborate drawing plan along with the keys of every section separately. For Example:- A working drawing of an irrigation plan will include layout of pipes, quantity of pipes, the bends and turns, excavation depth to bury the pipes, hydrant points, types of hydrants, sprinklers, details of water harvesting if any etc. Similarly working drawing of lightings will include all the details of lights such as layout of electrical lines, joints, types of lights, generator, power house required etc.

Principles of designing

All the designs are inspired by nature and various elements of nature like mountains, hills, river, forests, deserts, fire, waterfalls etc. Thus one can say that designing a garden is an attempt to create a mini nature in a small place.

While designing a garden, few important things should be kept in mind. They are:-(1) Background

Background of a garden can be a wall, screening of shrubs, climbers covered wall, tall trees or manicured hedges etc.

(ii) Contrast

Use of different colours, textures, sizes and forms of plants help in creating a variation and break monotony. Example:- use of three different colour foliage shrubs of different sizes in 3 tiers.



Fig 3.1.1 Garden Designing

Example:- Planting trees in a row which blooms in different colours in different months or in the same month like gulmohar and amaltas planted in a row when bloom give alternate colourful orange and yellow flowers.

(I) Proportion

Looking at the relative size of the structures in the property, the landscape is designed. Example a vast lawn around a medium sized swimming pool or a small hedge all around a gazebo. Imagine how would small randomly planted plants In a big yard would look like?



Fig 3.1.1 Proportion Gardening

Balance

A garden design looks beautiful when balanced in terms of quantity of plants, number of features, colour combination and forms of plants. Example:- One of the main principles of Mughal styles of garden is balancing. Same type and number of trees and same shaped shrubs on either side of the imaginary centre line are planted. Similarly non-symmetrically but similar group of plants are put together without overcrowding the place to design an informal garden.



Fig 3.1.1 Garden Designing - Balance

Rhythm

When we repeat plants at an interval it adds continuity and rhythm. Arranging various components and elements of a garden in a pattern makes a garden look harmonious such as using geometric shapes and curves in a garden is eye appealing. All these ways are used to bring rhythm to a garden design. Example:-Random plantations of shrubs in a garden in various shapes and sizes makes a garden appear non-harmonious. Similarly putting all the features like fountain, topiary, flowers, water body, bridge, gazebo, pergola, lawn, tall trees etc. in a small garden will appear complex and stressed. However when the same components are planted and nicely bordered with a round hedge makes it look pleasant.



Fig 3.1.1 Non rhythmic gardening

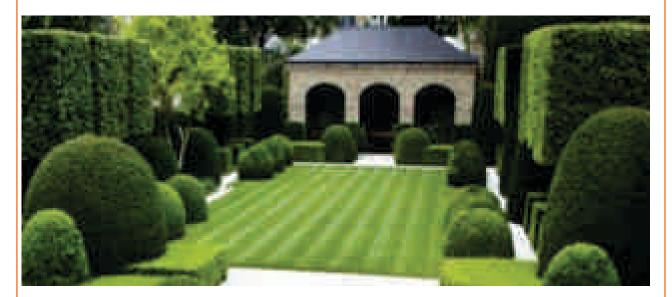


Fig 3.1.1 Rhythmic Gardening

Variety

Plantation of different varieties of same or different plants makes a garden look interesting and unique. Use of different varieties of plants and flowers breaks the monotony and adds lots of colour, form and texture to a garden.





Fig 3.1.1 Garden Designing - variety

Notes

UNIT 3.2: Components of Garden

Unit Objectives 6

At the end of this unit participants will be able to:

Understand the Garden components

3.2.1 Components of Garden -

Simplicity

Simplicity here means reducing chaos and complexity. Too many species of plants, quantity of plants, garden accessories, statues, fountains can make a garden look crowded and messy. Different garden components should be added in a garden only to make it elegant.

Components of a garden

To create a look of a mini nature, a garden should have some components. These components have different characters, which add value to a basic garden and enhances its beauty. Few garden components are described below:-

(i) Lawn

Nothing can be as relaxing as walking on a green carpet grass or overlooking a green lawn. The soft touch and revitalizing effect of a running green space, small or big increases the garden beauty and brings peace to mind.



Fig 3.2.1 Components of Garden - Lawn

(ii) Shrubbery

When a group of shrubs are planted together in a group, then collectively these shrubs are known as a shrubbery. Now shrubbery can be a mixed shrubbery or it can be a pure shrubbery. A mixed shrubbery includes a group of different species of shrubs. The variation in the species may be based on flower colours, foliage colour or texture, height of shrubs, fragrance etc.

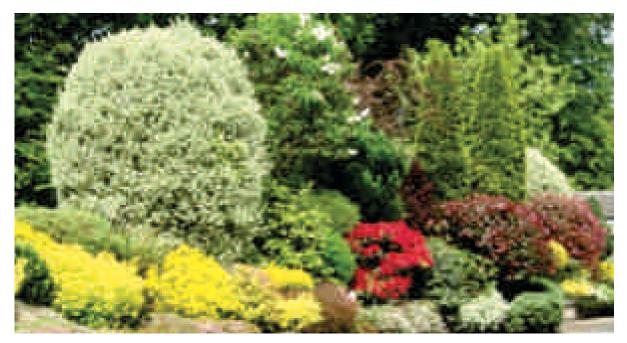


Fig 3.2.1 Components of gardening - Shubbery

	1	-		
S.No.	Shrubs (Common name)	(Botanical Name)	Key Characteristics	
1.	Tecoma	Tecoma capensis	Orange flowers	
2.	Pili Kaner	Yellow Oleander /	Yellow Flower	
		Cascabela		
		Thevetia		
З.	Kaner (safed)	Nerium oleander	White flower	
4.	Bougainvillea	Bougainvillea	Man coloures	
		Dwarf		
5.	Caesalpinia	Caesalpinia	Yellow and orange	
		pulcherrima	flowers	
6.	Ixora	Ixora	Red and Pink flowers	
7.	Tecoma gaudi Chaudi	Techoma	Yellow flowers	
8.	China Rose	Hibiscus chinesis	Multiple colour	
			flowers	
9.	Rose			
10.	Ficus black	Ficus blackeana	Thick foliage	
11.	Ficus benjamina	Ficus benjamina	Yellow coloured thick	
			foliage	
12.	Ficus starlight	Ficus starlight	Variegated foliage	
13.	Jasmine		Fragrant bloom	

Table 3.2.1 List of common shrubs with their characters

(iii) Hedges

When we grow plants close enough to form a dense fence or boundary which is thick and full of foliage, it is known as a Hedge. Generally we use different types of shrubs to make a hedge. A hedge can be maintained at a tall height to screen off an unwanted sight or it can be maintained at a short height to form boundaries. Hedges are generally well trimmed in different shapes, continuous and full of foliage from ground level. If the shrubs used for making hedge is flowering then the flowers are enjoyed during the flowering season and neatly manicured during rest of the season.



Fig 3.2.1 Garden Components - hedges

S.No.	Common Name	Botanical Name	Purpose		
1.	Murraya		Boundary / Fragrant		
			flower		
2.	Bougainvillea		Flowers / Wall /		
			Border		
3.	Ficus Panda		Hardy / Border		
4.	Ficus starlight		Border/leaves		
			variegated		
5.	TMC		Border and flowers		
6.	Hibiscus		Border and flowering		
7.	Heena		Boundary / Border		
8.	Enermi		Boundary/Border		
9.	Tecoma gaudi Chaudi		Screening / Wall		
10.	Tecoma capeasis				
11.	Ficus Benjamina		Screening		
12.	Ficus Black		Screening/Wall		

Table 3.2.1 Garden Components - hedges

(iv) Edges

Edges are live borders made of mostly herbaceous plants, that are fast growing and short in height. Edges are used for bordering purpose around different structures like gazebos, swimming pool, house entrance etc. They are also used to separate pathways, driveways and walkways. Edges can be perennial or seasonal in nature. Perennial edges are made of mostly plants that have foliage beauty or have coloured or variegated leaves. Seasonal edges are annuals generally grown during winters and summers for colourful flowers.





Fig 3.2.1 Garden Components - Edges

Gardener

S.No.	Common Name
1.	Lal ghas
2.	Duranta golden
3.	Duranta variegated
4.	Wedelia
5.	Red elanthra
6.	Green elanthra
7.	Black grass
8.	Marigold

Table 3.2.1 A list of plants generally used for making edges

(v) Avenue Trees

A row of trees planted all along, both sides of road are known as avenue trees. Generally avenue plantations are done to provide shade on pathways. To make avenue plantation look beautiful foliage beauty, colour of flowers, season of flowering and spread are some characteristics taken into consideration, while selecting avenue trees. Although, avenue trees can be of any origin, however it should be kept in mind that since trees live for years together hence preferably they should be indigenous in nature.

Example:-

A row of Gulmohar and Cassia fistula as avenue trees makes a beautiful combination of yellow and orange colour flowers when in bloom.



Fig 3.2.1 Garden Components - Avenue Trees

S.No.	Common Name	Botanical Name
1.	Gulmohar	Delonix regia
2.	Amaltas	Cassia fistula
3.	Jacranda	Jacaranda mimosifolia
4.	Cotton silk tree	Bombax
5.	Royal Palm	Roystonea regia
6.	Ankohan	Cassia modusa
7.	Kachnar	Bauhinia variegata

Table 3.2.1 Avenue Trees

(vi) Topiaries

Topiary is an art of training plants into beautiful shapes and figures. This component of garden design adds attractive feature and are generally planted on a mound in groups.

Plants generally used for topiaries are:-

- (i) Ficus retusa
- (ii) Ficus Panda
- (iii) Casurina
- (iv) Bottle brush



Fig 3.2.1 Garden Components - Topiaries

(vii) Rockery

Rockery is an attempt to portray a mini mountain or hilly terrain in a very small area of a garden. A rockery is an assemble of big rocks and boulders, grasses, bushes and plants coming out of crevices representing a natural hilly landscape. Rockery is generally made on an elevated area to enhance its presence. A lot of agave, cactus varieties, ferns, grasses, perennial flowering ground covers are mostly used while making a rockery.



Fig 3.2.1 garden Components - Rockery

(viii) Ground covers:

The main purpose of the ground cover is to cover a reasonable amount of ground area with closely planted herbaceous plants and hide the earth. Ground covers are trimmed severely and frequently to almost ground level like a carpet. Sometimes ground covers are also planted in a patterns using different coloured ground covers to give an attractive artistic look from a distance.





Fig 3.2.1 Garden Components - ground covers

(ix) Align them properly

- (I) Red iresine
- (ii) Red elanthera
- (iii) Golden duranta
- (iv) Duranta variegated
- (v) Wedelia
- (vi) Black grass etc

(x) Climbers and creepers:- Those plants which have a soft stem and are unable to stand straight without a support are known as climbers. They are raised against a support like walls, pergolas, gazebos or any trellis structure or arches. Beautiful flowering and fragrant climbers form an important component of a garden design because it can be climbed at any height on any support for desired shapes and patterns in shorter period of time than other plants.



Fig 3.2.1 Climbers and Creepers

Different types of climbers / creepers are:-

- (i) Alamanda colourful flowers.
- (ii) Bignonia Venesta Orange bloom in winters
- (iii) Bougainvillea flowers round the year
- (iv) Vernonia-foliage beauty
- (v) Ficus repens low maintenance
- (vi) Morning glory flower purple
- (vii) Madhu Malti flowering in bunches of pink flower.

(xi) Flower Beds

Seasonal flowers add a lot of colours to the garden (have a soft appearance). They are planted as borders or in different shaped planting beds. To add character to a garden, either same variety can be of annuals planted in one bed or can be given an asserted look with annuals of different colours, height and texture.

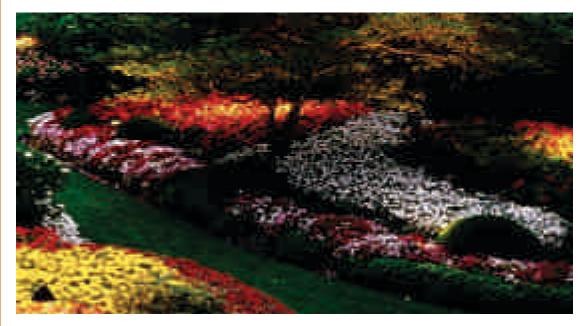


Fig 3.2.1 Garden Components - Floer Beds

Gardener

Name of seasonals

- (i) Petunia
- (ii) Zinnia
- (iii) Marigold
- (iv) Antirrhinum
- (v) Pansy
- (vi) salvia

Walkways & Pathways

Walkways and pathways in the garden are made with different materials like pavers, concrete, natural stones, cement and bricks. They take definite amount of space for walking and prevent lawn and plants from getting damaged.



Fig 3.2.1 Garden Components - Walkways & pathways

TYPES OF GARDENS

Informal Gardens

Informal gardens are uneven landscaped or asymmetrical gardens, resembling closely to natural gardens. Various elements such as topiaries, lawn, flower beds, rockery, trees and shrubs are used randomly in different shapes and sizes. Informal gardens are more casual and rustic in design and give more scope to play with creativity. Most common example of an informal garden is Japanese Garden. In Japanese gardens there are three most essential elements, that is water, rocks and plants. These three elements are found in any Japanese garden in different ways like water is present in asymmetrical ponds, raked sand and rocks in between plants or separate rockeries, upslopes and downslopes. Example: Herb garden, trench gardens, vegetable gardens etc.



Fig 3.2.1 Informal gardens

Formal Gardens

The most important feature of a formal garden is the emphasis on geometrical shapes, sharp lines and balanced features on every side of the design. Formal gardens are a very well planned gardens with neatly trimmed and shaped hedges and shrubs perfectly pruned borders and manicured topiaries. A central water body and fountain generally form the focal point of every formal garden design. Other features of a formal garden includes garden benches, straight pathways, flower in straight lines or geometrically shaped beds. Avenue trees at equal distance balanced on either side of an imaginary central line are also one of the most important and beautiful feature of any formal garden. Example: English gardens and Mughal Gardens like Pinjore Garden.



Fig 3.2.1 Formal gardens

Write	а	note	of	Garden	Desia	nina

- Evercice - N
- Exercise
1. Write a note of Garden Designing?
Answer:
2. Write a note on Garden Components and explain.
Answer:
3. What are the different types of Garden?
Answer:

Notes	



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4.Plantation,Maintenance and care of Garden

Unit 4.1 - Plantation, Maintenance and care of Garden



- Key Learning Outcomes 🏹

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

- Understand the seasonal Gardening and Ground maintenance.
- Understand the different planting and Culture of Floral Display.
- Understand and perform the irrigation maintenance in the garden.
- Practice Pest and Disease management.
- Perform filed operations like Maintain Lawn and Turf, Mowing, Fertilizing, Weeding, Irrigation, Aeration and Renovation etc

UNIT 4.1: Plantation, Maintenance and care of Garden

Unit Objectives 6

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

- practice care and maintenance of a garden
- understand the requirement of tools/ equipments for the management practices

-4.1.1 Plantation, Maintenance and care of Garden

Plantation

Planting of a plant is referred to as plantation. Growing of a seed or planting of a sapling, shrub or a tree involves specific techniques. These correct techniques of plantation are important for a healthy start of the plant and to reduce their mortality.

Planting of seeds

Traditionally seeds used to be grown in seed beds where erratic climatic conditions like sudden rain, extreme temperatures or problems like water logging and hardening of soil appeared, which used to reduce the germination rate. So for seedling preparation new technique got devised like raising seedlings in containers. These containers come in the form of a plastic tray with small pockets of different diameter and depth depending upon the size of seeds different trays are selected for raising seedlings.



Fig 4.1.1 Planting seeds

Various factors mentioned below are important to be kept in mind while raising seedlings from seeds:

Time of Sowing

When the weather is either too cold or too hot, sowing of seeds is not recommended. A temperature ranging between 28°C to 35°C with high humidity is most appropriate for seed germination. In Delhi best time to sow seeds is 15th February to 10th March and 15th August to end of September. However with use of poly house and shade nets the timings of seed sowing can be varied.

Selection of the right container

The right containers are the ones that have a proper drainage hole in every pocket and at least are 2 to 3 inches deep and 2 inches wide. Thereafter depending upon the size of the seeds and aggressiveness of the roots, right size of tray should be selected. Dealing with trays is very human friendly in terms of carrying out various important field activities like watering, medium filling, lifting etc.

Preparing the right Potting Mixture

Seeds require proper drainage to germinate, hence the potting mixture should be such that it is porous in nature and allow the water to drain out quickly. For trays we either use a potting mixture available readily in the market or prepare in house using coco peat, vermiculite and perlite in 3:1:1 ratio This mixture is properly mixed and made a little moist before filling the pockets of the container tray. The existing nutrients generally leach out of the container and gets consumed with seedling growth over a period of time and hence a fertilizer spray post 3rd week of sowing seeds should be done at a gap of 1 week until the seedlings achieve a transplanting stage.



Fig 3.1.1 Preparation of Potting mixture



<u>Light</u>

Germinated seeds need light to grow faster. The leaves prepare food by the process of photosynthesis and helps the root and shoot system to flourish quickly. Atleast 12-14 hrs. of light is necessary for healthy development of seedlings. However, exposure of seedlings to direct sunlight during hot hours can be desiccating.

Seed Sowing

Seeds of different sizes are sown at different depths inside the pockets. smaller seeds are simply sprinkled over the potting mixture where as bigger seeds are sown at least 1-inch below. If the seeds size is not very big then we even plant 2 seeds in one pocket. This helps us save time in case one seed fails to germinate. In case both seeds germinate then one of the seedlings can be snipped and put into another pocket.

The newly sown seeds should be moistened timely for quick germination. After sowing and watering the seed trays are covered with a plastic sheet in order to prevent water from evaporating and keep the seed moist. However, after initiation of the germination process, the plastic wrap should be removed.

The growing seedlings are very tender and susceptible to quick desiccation and infestation to pests and diseases. They should be closely watched and treated with insecticides and pesticides in case of any infestation. A healthy seedling is generally ready to be transplanted at a four leaf stage.

Since the medium is little porous, therefore, watering is an important factor to be kept in mind. The mixture should be moist throughout the day. On hot days, the seedlings may require watering twice in a day.



Seed Sowing Steps



Step 1







Step 5



Step 2



Step 4



Step 6

Benefits of using container or seedling tray:

- -The roots easily flourish in the porous medium and hence seedlings have a strong root system.
- The roots stay intact and holds on to the potting material, thus minimizing the rate of mortality on transplanting.
- During adverse conditions, like too much rainfall, the trays can be lifted and moved from one place to another, thus preventing the seedlings from dying.
- Almost 100% germination of seeds.
- No wastage of seeds or any other resource.

Plantation of Annuals

- Plants that complete their life cycles in one year or six months are known as annuals or seasonal. They are generally grown for their colourful flowers which add beauty to the gardens in all seasons. They are used for making:
- borders along the pathway,
- flower beds of different designs at the entrance of houses and in hanging baskets,
- edging,
- some tall seasonal are also used around shrubberies.

Raising Annuals

- Seeds of annual plants are sown exactly in the same way as discussed under planting of seeds. Quick steps include:
- The seeds are sown in trays filled with appropriate potting mixture of coco peat + vermicompost + perlite.
- Annuals which do not need transplantation are broadcasted directly in the ground.
- Watering must be done by using a water can.
- 2 seeds should be put in every cup and pocket of the tray.
- Once the seeds germinate, extra seedlings should be snipped at 2-3 leaf stage and transplanted in the beds.

- The seedlings attain sturdy stem and roots at 4 to 5 leaf stage. This is the right stage for seedling transplantation, attained in approximately 30-35 days.
- For thick border the seedlings are planted in wide beds in a criss cross fashion as shown below:
- Once the root system of the transplanted seedlings is established in the soil and new leaves start coming, the terminal part of the shoot should be pinched off. This is activity of pinching off is very important to encourage lateral branches and make a flowering plant bushy. More the number of lateral branches, more will be the buds and ultimately flower.

Plantation of Shrubs

Shrubs are one of the most important component of a garden. They are not completely herbaceous nor they are tall and woody like trees. Shrubs have soft woody stems which on regular trimming from top forms hedge. Taller shrubs are used to screen unpleasant or dirty objects. Shrubs that are short in height are used to form hedges. Different shrubs with beautiful foliage fragrant flowers are planted in corners as individual plants or put together in corners or create to form a shrubbery. All in all, shrubs are used in many ways in a garden:

- Used in shrubbery (Pic)
- Individual shrub trained as a specimen plant (Pic)
- Used as screening and hedges (Pic)
- Shrubs formed as topiaries (Pic)
 Ex:- Bougainvillea, Ixora, Murrya exotica etc.

Plantation:

While planting a shrub, few points to be kept in mind are:

Season of Plantation – The best season for plantation of a shrub is monsoon. However, spring season is also appropriate when temperature is not very cold or very hot and the humidity in the air is adequate. High humidity and temperature between 25°C – 35°C are best for shrub plantation.

Time of plantation

Best time of shrub plantation in the day is evening as it is followed by a long night and prevents the shrubs from the dessicating effect of the sun. However, during monsoon, the shrubs can be planted all through the day due to high humidity.

Planting a fully grown shrub

For planting a fully grown shrub, firstly a pit of 1.5' to 1/1.5' is dug and the top soil is divided into 2 parts. First part of the top soil is thoroughly mixed with FYM and put back in the pit. Then a well shifted shrub is planted in the pit putting back the remaining top soil into the pit and drenching the pit with water (by repeated watering after every 20 minutes). Drenching the newly planted shrub in water helps the plant to overcome transplantation shock and prevents the falling of leaves and in extreme cases death of the plant

Shifting of a shrub

Shifting of a fully grown shrub is an art. This process involves repeated cutting of roots at an interval and simultaneous conditioning of the plant and its roots without letting the plant die.Shifting process takes 25-30 days and is mostly done during monsoon.

Plantation of climbers

Climbers shall be planted when maximum of 2-3 ft. height. Depending upon the size of the root ball of the plants, the pit is dug and top soil is divided into 2 parts. The first part is mixed with FYM and put back in the pit and plant is placed inside the pit. The remaining second part of the sop soil is refilled in the pit and the plant is watered. Initially the climber is trimmed from top to encourage lateral branches and gradually all the branches are trained up as desired with the help of a support.

MAINTENANCE AND CARE OF A GARDEN

Maintenance of a garden is very important. Ignorance in any maintenance activity can damage the garden within few days. Hence various maintenance activities should be carried out timely in a very professional manner.

Maintenance of a garden includes the following major activities:-

- Irrigation of plants
- Nutriment Management
- Pest and disease management
- Field operations like

Irrigation of Plants

Water is an important constituent of plants. All the nutrients get dissolved in water and are absorbed by the plants. Several factors should be taken into consideration for irrigating plants:-

Active growing period

During spring and monsoon seasons, growth of plants is maximum. Therefore, regular watering is must during maximum or active growth period.

Type of soil

Different types of soils have varied water holding capacity due to difference in the size of soil particles. Sand particles are bigger in size, hence the water retention is less and such types of soil needs to be watered frequently. However, clay particles are smaller in size and retain water for a longer time.

Season

Summer seasons are more dessicating due to hot sun and dry winds as compared to winter season and monsoon. Plants need to be watered frequently in summers and at a few days interval during winters and as per the requirement during monsoon.

Types of irrigation system

Sprinkler irrigation

In this system of irrigation, water is sprayed through a nozzle in small droplets like rain over the plants. Sprinklers head and nozzles also come separately that can be attached directly to the hose pipe used . These sprinklers also come as pop ups which are laid under the ground and with automatic provision, these nozzles come out and sprinkle water. Sprinkler irrigation has advantages like –

- Fertigation Adding fertilizers in water tank and giving it to plants while irrigating
- Uniform spread of water over the crops.
- More absorption and less wastage of water.

Drip irrigation

In drip irrigation, pvc pipes and LLDPE pipes are laid all along the plantation. Every pipe has a hole or drippler at equal intervals from where water comes out drop by drop and falls in the root zone. Drip irrigation has a lot of advantages:-

- Saves a lot of water.
- Fertigation.
- Better yield and growth of plant.

Flooding

In flooding water is provided to plants through hose pipes. Water runs openly in the plants. A lot of water gets wasted during flooding.

Nutrient Management

It is very important to know that which fertilizer should be given to plants, at what time, how is it added and why. Understanding of these four things ensures that the fertilizer is effectively and efficiently supplied to plants for their optimal growth.

The 3 most essential nutrient elements to plants are:-

Nitrogen

Nitrogen is important for vegetative growth i.e. leaves carrying out photosynthesis (i.e. leaves manufacturing food).

• Phosphorus

Phosphorous is important for overall development of shot system (stems, flowers and fruits) and root system.

Potassium

Potassium is important for physiological process and water regulation in plants.Generally all these 3 elements are available in the market as NPK in different proportion (example – 16:16:16 N:P:K). Since these are most essential to plants, feeding the plants with NPK atleast twice in a year is recommended. Feeding 3 times a year is even better. NPK comes in granular form as well as in water soluble form. Granular fertilizer dissolves with water and gradually releases nutrient elements over a period of time, while the water soluble fertilizer is for instant supply of nutrient elements, but applied frequently. Granular fertilizers can be applied as broadcast or top dressing whereas powdered NPK is generally used for dissolving the nutrients in water and apply as foliar spray or base application.

Top dressing

In top dressing small quantity of granular fertilizer is scattered around the base of the plant and hoeing is done.

Base application

Water soluble fertilizers are dissolved in water in the light quantity and applied to the base of the plants for immediate supply of nutrient elements. This method of application is good for potted plants and indoor plants.

Foliar Application

Here the water soluble nutrients are dissolved in water and applied into the leaves or foliage than in the soil.

Other nutrients

Plants also need micro nutrients in small quantities for their proper growth and development. That is why it is suggested that while manuring or feeding the plants a proper mixture of all nutrient elements supplying feeds shall me made. Example – In Delhi climate, September is an important month for manuring plants.

Time of Fertilizing

February – March and September are the most appropriate months for feeding plants in a climate like Delhi. During these months the plants are very active and growth is at its maximum. Extreme climatic condition like too hot or too cold has a negative impact on plant growth. Manuring or fertilizing the garden during monsoons is not considered a good idea because the nutrient elements either gets washed off or leaches down the soil and is not available to the plants. Hence it is recommended to feed plants immediately post monsoon. Seeds and young plants should not be fertilized as they tend to burn. Certain plants like roses and annuals are heavy feeder and need frequent fertilization i.e. every 7-10 days during their flowering and growing season respectively. Newly transplanted plants from ground or pots, should not be fertilized because the root hairs responsible for absorption of nutrients are damaged and they tend to burn. It is advisable that once the new root hairs are formed then only the fertilizer should be added for effective plant feeding.

Care and maintenance of a garden

After plantation of the garden as per the design, the next most important thing is to maintain the garden through various field operations. Field operations are activities carried out periodically in the garden using different tools and equipments in order to maintain it. Maintenance of a garden involves operations like timely weeding, irrigation, moving grass, spraying insecticides and pesticides, feeding nutrients, pruning, supporting, trimming, propagating etc. Most important field operations required for proper upkeep of a garden are:-

Hoeing

Hoeing is done once the root hairs are established in the newsly transplanted plant. Hoeing is done by digging the soil 1 inch to 2 inch deep all around the stem without disturbing the roots but breaking the hard soil surface. This helps in proper aeration and respiration process of the plants. Hoeing is also important for proper percolation and supply of nutrients. Hoeing is usually atleast once in a week, however in clayey soil, should be worked even more frequently.

Weeding

Weeds are unwanted plants that grow alongside the desirable plants and compete with them for food, space and sunshine. Weeds are generally faster growing than other plants and thus needs to be taken care of frequently and regularly. Weeding is done using a weeder in laws, plant beds, uncovered soil. Weeding can be controlled chemically or manually. In areas where there are no broad leaf plants or grass and the weeds are unmanageable (i.e. more in quantity) then we use weedicides, to control weeds. However, in case the weeds are few and grow randomly then the preferred method of weeding is pulling them manually or by using weeder. To certain extent regular hoeing also helps to remove annual weeds.

Prunning

Pruning is an activity generally done in trees or bushy shrubs like roses. In pruning we remove selective plant parts like dead branches or the overcrowding branches of the tree. When too many branches grow in criss-cross manner or in wrong direction, they make it difficult for the sun to penetrate and thus makes the plant susceptible to pest and disease infestation and poor growth.Prunning done during the initial years of plant growth promotes growth of lateral branches and development of a healthy and denser canopy of the plant.In deciduous trees / plants pruning is carried during their dormant season: December, January and early February are considered the best months for pruning.However pruning of evergreen trees and plants is done as per their flowering season. Plants should be pruned or trimmed either before the flower season or after the flowering season is over. Shrubs like roses are pruned in late August or very early September to promote the growth or new herbaceous branches that bear the flower in the coming season.

Trimming

Trimming is a form of pruning, where the plants are regularly cut from top in order to give proper shape to the plants. Evergreen plants that are grown for foliage beauty can be trimmed in any season. Similarly branches of potted plants can be clipped any time of the year.

Irrigation

Watering of the plants is most important field of operation. Watering should be done timely either in morning or late evening. In hot adequate watering should be done every day to provide the plants a humid microclimate and prevent them from dessication. In extreme winters watering should be done every alternate day or once in three days to condition the plant roots and prevent them from freezing. Foliar washing of plants is equally important. Due to the increasing pollution and new developments, particulate matter settle on the leaves and block the surface. This restricts proper respiration in plants, thus hampering their growth and development.

While watering few points are important to keep in mind:-

• When hoeing is done, a watering should be withheld for a day and watered the next day. This helps the roots to respire properly and helps in proper intake of water.

Exercise 2 -



1. Write a note on Plant Propagation Techniques.
Answer:
2. What is Layering?
Answer:

Notes	



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5.Maintain health & safety at the work place

Unit 5.1 - Garden hazards Unit 5.2 - Gardening Health and Safety

AGR/N9903

- Key Learning Outcomes 🔯

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

- Understand the basic safety measures.
- Proper use of equipment.
- Practice General safety and first aid

UNIT 5.1. : Garden hazards

Unit Objectives 6

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

Understand the basic hazards occur in the Garden

5.1.1 Garden Hazards

The starting point is conducting a risk assessment of the garden up to the boundary fence. A risk assessment will identify the potential hazards within a garden and highlight any further controls needed to ensure it remains safe for all users. The main types of hazards to consider in a risk assessment are:

- Flora and fauna
- Garden equipment
- Garden shed and asbestos
- Poisonous plants
- Trees and leaves
- Slip, trips, falls
- Glass from glasshouse (i.e. broken windows)
- Rust
- Pesticides and insecticides
- Electrical cabling from lawnmowers

Flora and fauna

The droppings of any animals will need to be removed to prevent the spread of pathogenic microorganisms. Foxes, badgers, hedgehogs, rats, mice and rabbits will enter gardens at night and leave unwanted droppings, which will need to be cleared. Ensure staff have the correct gloves and equipment for removing these droppings safely.

Garden equipment

The garden shed is full of different essential garden equipment such as shovel, trowels, pruners, hoes and secateurs. Garden staff need to be familiar with all equipment and wear appropriate personal protective equipment such as garden gloves and good secure shoes.

Garden sheds and asbestos

Something that is not commonly known is that asbestos has been known to be found in the rooves of old garden sheds. These structures are typically made from a material called asbestos cement. The local council environment protection team will be able to give advice on whether to remove the asbestos material.

There should be an asbestos survey for the main building, including any out buildings, and the asbestos specialist conducting the survey will be able to give advice on what action to take.

Poisonous plants

Most people are familiar with the harmful nature of stinging nettles, thorny plants and hog weed, and will avoid touching them. Some plants, however, are grown by many gardeners but the dangers are not as well known. You can gain a hint of the dangerous nature of some plants from their names: Poison ivy is one example of a poisonous plan which is irritating to the skin along with other beautiful plants, such as the opium poppy, burning bush, devil's ivy, blackthorn, dragon arum, cobra-lily and deadly nightshade. However, be aware this is not always the case, as some plants with otherwise innocuous names are also potentially harmful, and can be poisonous or irritating to the body. Images of safe beautiful plants with names such as foxglove, bluebell, angels trumpet, daffodil, lily of the valley, passion flower, peace lily and snowberry do not alert staff and residents to their hidden dangers.

Trees and leaves

The employer should ensure that leaves are cleared regularly to prevent the slips and falls to both staff and service users. Over hanging branches will need to be cut, and a tree surgeon may be required.

Slips, trips and falls

Service and site managers should ensure that regular planned monitoring through audits and inspections are undertaken, to highlight any potential hazards. Paths and walkways will need to be level, which can be quite a challenge with constant changes in weather causing cracks, chips and soil movement. It is always easier to maintain routes within a building but much more difficult to maintain outside walking paths.

Glass from glasshouse

The hazards of glass causing injuries are well known to the accident and emergency department. Sometimes after turbulent weather broken glass can be found where windows have smashed. This will be picked up when inspections are completed.

Rust

Ferric Oxide is the chemical that makes up rust – it is irritating to the body, and harmful. Rust is one of the hazards resulting from old equipment left outside exposed to the rain.

Pesticides and insecticides

The use of pesticides, insecticides and any other hazardous chemicals needs to be assessed, with the correct precautions practiced when storing and handling these chemicals.

Electric shocks

Having electric cabling from the use of outdoor equipment can introduce more hazards to the garden. An RCD (residual current device) is a potentially life-saving device that will help protect against electric shock and reduces the risk of electrical fires.

Exercise



1. Write a note on Health & Safety in Garden.
Answer:

UNIT 5.2. : Gardening Health and Safety

Unit Objectives Ø

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

• Understand the safety precautions while working in the Garden

- 5.2.1 Health & Safety



Fig 5.2.1 Personal Protective Equipments

Gardening can be a great way to enjoy the outdoors, get physical activity, beautify the community, and grow nutritious fruits and vegetables. If you are a beginner or expert gardener, health and safety should always be a priority.

Below are some tips to help keep you safe and healthy so that you can enjoy the beauty and bounty gardening can bring.

Dress to protect.

Gear up to protect yourself From lawn and garden pests, harmful chemicals, sharp or motorized equipment, insects, and harmful rays of too much sun, Suggest to dress and gear up to protect yourself. Wear sturdy shoes, safety goggles and long pants to prevent any kind of injury while using power tools and equipment. Protect your ears while using machinery. If you have to raise your voice to talk to someone who is an arm's length away, the noise can be potentially harmful to your hearing

- Wear gloves to lower the risk for skin irritations, cuts, and certain contaminants.
- Use insect repellent containing DEET. Protect yourself from diseases caused by mosquitoes and ticks. Wear long-sleeved shirts, and pants tucked in your socks. You may also want to wear high rubber boots since ticks are usually located close to the ground.
- Lower your risk for sunburn and skin cancer. Wear long sleeves, wide-brimmed hats, sun shades, and sun screen with sun protective factor (SPF) 15 or higher.

Put safety first.

Powered and unpowered tools and equipment can cause serious injury. Limit distractions, use equipment and chemicals properly, and be aware of all kinds of hazards to lower your risk of injury. Follow all instructions and warning labels on lawn, chemicals and garden equipment. It is advised to make sure equipment is properly working. Sharpen the tools carefully. Keep harmful tools, chemicals and equipment out of children's reach. Know your limits in the heat.

Know your limits in the heat.

Even being out for short periods of time in high temperatures can cause serious health problems. Monitor your activities and time in the sun to lower your risk for heat-related illness.

- If outside in hot weather for most of the day, you need to make an effort to drink more fluids.
- It is advised, especially in the heat, to avoid taking liquids which contain alcohol or sugar (in large amount). Take breaks often. Try to rest in shaded areas so as your body's thermostat will have a chances to recover. Stop the working if you experience muscle soreness or breathlessness. Suggest for paying attention to signs of illness related to heat which includes extremely high body temperature, headache, rapid pulse, dizziness, nausea, confusion, or unconsciousness.
- Watch people who are at higher risk for heat-related illness, including new borns and children up to four years, people above 65 years or older; people who are overweight; people who push themselves too hard during work or exercise and people who are physically ill or who take certain medications
- Eat healthy foods to help keep you energized.

Tips for persons with disabilities and physical activity.

Talk to your health care provider if you have physical, mental, or environmental concerns that may impair your ability to work in the garden safely.

• If you have arthritis, use tools that are easy to grasp and that fit your ability. Research shows that 2½ hours per week of moderate physical activity can give you more energy and can help relieve arthritis pain and stiffness.

• If you are taking medications that may make you drowsy or impair your judgment or reaction time, don't operate machinery, climb ladders, or do activities that may increase your risk for injury.

• Listen to your body. Monitor your heart rate, level of fatigue, and physical discomfort.

Enjoy the benefits of physical activity.

Gardening is an excellent way to get physical activity. Active people are less likely than inactive people to be obese or have high blood pressure, type 2 diabetes, osteoporosis, heart disease, stroke, depression, colon cancer, and premature death.

• Be active for at least 2½ hours a week. Include activities that raise your breathing and heart rates and that strengthen your muscles. Help kids and teens be active for at least 1 hour a day.

• If you have been inactive, start out with just a few minutes of physical activity each day. Gradually build up time and intensity.

• Vary your gardening activities to keep your interest and to broaden the range of benefits.

Get vaccinated.

Vaccinations can prevent many diseases and save lives. All adults should get a tetanus vaccination every 10 years. Tetanus lives in the soil and enters the body through breaks in the skin. Because gardeners use sharp tools, dig in the dirt, and handle plants with sharp points, they are particularly prone to tetanus infections.

• Before you start gardening this season, make sure your tetanus/diphtheria (Td) vaccination is up to date.

• Ask your health care provider if you need any other vaccinations.

5.2.2 Other tips -

Gardening can be a great way to enjoy the outdoors, get physical activity, beautify the community, and grow nutritious fruits and vegetables. Whether you are a beginner or expert gardener, health and safety are always important. Below are some Tips to keep you healthy and safe so that you can enjoy the beauty and bounty that gardening can bring.

- Dress to protect.
- Gear up and protect yourself from garden and lawn pests, sharp or motorized equipment, harmful chemicals, insects and harmful rays of sun.
- Wear sturdy shoes and long pants while using lawn mowers and other kinds of machinery.
- Protect your ears when using the machinery.
- If you have raised your voice to talk to someone who is an arm's length away, the noise can be potentially harmful to your hearing.
- Wear gloves to lessen the skin irritations risk, cuts, and certain contaminants.
- Protect yourself from diseases caused by mosquitoes. Use DEET containing insect repellent. Wear long-sleeved shirts, and pants tucked in your socks. You should wear high rubber boots which are usually located close to the ground.
- Lessen your risk of sunburn and skin cancer. Wear wide-brimmed hats, long sleeves, sun shades, and sun screen with sun protective factor (SPF) 15 or higher. Follow instructions and warnings on chemicals and lawn and garden equipment.

Follow instructions and warning labels on chemicals and lawn and garden equipment

- Make sure equipment is working properly.
- Sharpen tools carefully.
- Keep harmful tools, chemicals and equipment out of children's reach.
- Vary your gardening activities to keep your interest and to broaden the range of benefits.

Notes	



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6. Employability & Entrepreneurship Skills

- Unit 6.1 Personal Strengths & Value Systems
- Unit 6.2 Digital Literacy: A Recap
- Unit 6.3 Money Matters
- Unit 6.4 Preparing for Employment & Self Employment
- Unit 6.5 Understanding Entrepreneurship
- Unit 6.6 Preparing to be an Entrepreneur

AGR/N4103

Key Learning Outcomes

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

- 1. Explain the meaning of health
- 2. List common health issues
- 3. Discuss tips to prevent common health issues
- 4. Explain the meaning of hygiene
- 5. Understand the purpose of Swacch Bharat Abhiyan
- 6. Explain the meaning of habit
- 7. Discuss ways to set up a safe work environment
- 8. Discuss critical safety habits to be followed by employees
- 9. Explain the importance of self-analysis
- 10. Understand motivation with the help of Maslow's Hierarchy of Needs
- 11. Discuss the meaning of achievement motivation
- 12. List the characteristics of entrepreneurs with achievement motivation
- 13. List the different factors that motivate you
- 14. Discuss how to maintain a positive attitude
- 15. Discuss the role of attitude in self-analysis
- 16. List your strengths and weaknesses
- 17. Discuss the qualities of honest people
- 18. Describe the importance of honesty in entrepreneurs
- 19. Discuss the elements of a strong work ethic
- 20. Discuss how to foster a good work ethic
- 21. List the characteristics of highly creative people
- 22. List the characteristics of highly innovative people
- 23. Discuss the benefits of time management
- 24. List the traits of effective time managers
- 25. Describe effective time management technique
- 26. Discuss the importance of anger management
- 27. Describe anger management strategies
- 28. Discuss tips for anger management
- 29. Discuss the causes of stress
- 30. Discuss the symptoms of stress
- 31. Discuss tips for stress management
- 32. Identify the basic parts of a computer
- 33. Identify the basic parts of a keyboard
- 34. Recall basic computer terminology
- 35. Recall basic computer terminology

- 36. Recall the functions of basic computer keys
- 37. Discuss the main applications of MS Office
- 38. Discuss the benefits of Microsoft Outlook
- 39. Discuss the different types of e-commerce
- 40. List the benefits of e-commerce for retailers and customers
- 41. Discuss how the Digital India campaign will help boost e-commerce in India
- 42. Explain how you will sell a product or service on an e-commerce platform
- 43. Discuss the importance of saving money
- 44. Discuss the benefits of saving money
- 45. Discuss the main types of bank accounts
- 46. Describe the process of opening a bank account
- 47. Differentiate between fixed and variable costs
- 48. Describe the main types of investment options
- 49. Describe the different types of insurance products
- 50. Describe the different types of taxes
- 51. Discuss the uses of online banking
- 52. Discuss the main types of electronic funds transfers
- 53. Discuss the steps to prepare for an interview
- 54. Discuss the steps to create an effective Resume
- 55. Discuss the most frequently asked interview questions
- 56. Discuss how to answer the most frequently asked interview questions
- 57. Discuss basic workplace terminology
- 58. Discuss the concept of entrepreneurship
- 59. Discuss the importance of entrepreneurship
- 60. Describe the characteristics of an entrepreneur
- 61. Describe the different types of enterprises
- 62. List the qualities of an effective leader
- 63. Discuss the benefits of effective leadership
- 64. List the traits of an effective team
- 65. Discuss the importance of listening effectively
- 66. Discuss how to listen effectively
- 67. Discuss the importance of speaking effectively
- 68. Discuss how to speak effectively
- 69. Discuss how to solve problems
- 70. List important problem solving traits

- 71. Discuss ways to assess problem solving skills
- 72. Discuss the importance of negotiation
- 73. Discuss how to negotiate
- 74. Discuss how to identify new business opportunities
- 75. Discuss how to identify business opportunities within your business
- 76. Understand the meaning of entrepreneur
- 77. Describe the different types of entrepreneurs
- 78. List the characteristics of entrepreneurs
- 79. Recall entrepreneur success stories
- 80. Discuss the entrepreneurial process
- 81. Describe the entrepreneurship ecosystem
- 82. Discuss the government's role in the entrepreneurship ecosystem
- 83. Discuss the current entrepreneurship ecosystem in India
- 84. Understand the purpose of the Make in India campaign
- 85. Discuss the relationship between entrepreneurship and risk appetite
- 86. Discuss the relationship between entrepreneurship and resilience
- 87. Describe the characteristics of a resilient entrepreneur
- 88. Discuss how to deal with failure
- 89. Discuss how market research is carried out
- 90. Describe the 4 Ps of marketing
- 91. Discuss the importance of idea generation
- 92. Recall basic business terminology
- 93. Discuss the need for CRM
- 94. Discuss the benefits of CRM
- 95. Discuss the need for networking
- 96. Discuss the benefits of networking
- 97. Understand the importance of setting goals
- 98. Differentiate between short-term, medium-term and long-term goals
- 99. Discuss how to write a business plan
- 100. Explain the financial planning process
- 101. Discuss ways to manage your risk
- 102. Describe the procedure and formalities for applying for bank finance
- 103. Discuss how to manage your own enterprise
- 104. List important questions that every entrepreneur should ask before starting an enterprise

UNIT 6.1: Personal Strengths & Value Systems

- Unit Objectives 🛛

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

- 1. Explain the meaning of health
- 2. List common health issues
- 3. Discuss tips to prevent common health issues
- 4. Explain the meaning of hygiene
- 5. Understand the purpose of Swacch Bharat Abhiyan
- 6. Explain the meaning of habit
- 7. Discuss ways to set up a safe work environment
- 8. Discuss critical safety habits to be followed by employees
- 9. Explain the importance of self-analysis
- 10. Understand motivation with the help of Maslow's Hierarchy of Needs
- 11. Discuss the meaning of achievement motivation
- 12. List the characteristics of entrepreneurs with achievement motivation
- 13. List the different factors that motivate you
- 14. Discuss how to maintain a positive attitude
- 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

- 6.1.1 Health, Habits, Hygiene: What is Health

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

Common Health Issues

Some common health issues are:

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

Tips to Prevent Health Issues -

Taking measures to prevent ill health is always better than curing a disease or sickness. You can stay healthy by:

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

How many of these health standards do you follow? Tick the ones that apply to you.

- 1. Get minimum 7-8 hours of sleep every night.
- 2. Avoid checking email first thing in the morning and right before you go to bed at night.

3. Don't skip meals – eat regular meals at correct meal times.

- 4. Read a little bit every single day.
- 5. Eat more home cooked food than junk food.

6.	Stand more than you sit.	
7.	Drink a glass of water first thing in the morning and have at least 8 glasses of water through the day.	
8.	Go to the doctor and dentist for regular checkups.	
9.	Exercise for 30 minutes at least 5 days a week.	
10.	Avoid consuming lots of aerated beverages.	
	,	

- What is Hygiene? -

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

For instance, think about the kitchen in your home. Good hygiene means ensuring that the kitchen is always spick and span, the food is put away, dishes are washed and dustbins are not overflowing with garbage. Doing all this will reduce the chances of attracting pests like rats or cockroaches, and prevent the growth of fungus and other bacteria, which could spread disease.

How many of these health standards do you follow? Tick the ones that apply to you.

1.	Have a bath or shower every day with soap – and wash your hair with shampoo 2-3	
	times a week.	
2.	Wear a fresh pair of clean undergarments every day.	

- 3. Brush your teeth in the morning and before going to bed.
- 4. Cut your fingernails and toenails regularly.
- 5. Wash your hands with soap after going to the toilet.
- 6. Use an anti-perspirant deodorant on your underarms if you sweat a lot.
- 7. Wash your hands with soap before cooking or eating.
- 8. Stay home when you are sick, so other people don't catch what you have.
- 9. Wash dirty clothes with laundry soap before wearing them again.
- 10. Cover your nose with a tissue/your hand when coughing or sneezing.

See how healthy and hygienic you are, by giving yourself 1 point for every ticked statement! Then take a look at what your score means.

Your Score

0-7/20: You need to work a lot harder to stay fit and fine! Make it a point to practice good habits daily and see how much better you feel!

7-14/20: Not bad, but there is scope for improvement! Try and add a few more good habits to your daily routine.

14-20/20: Great job! Keep up the good work! Your body and mind thank you!

Swachh Bharat Abhiyan

We have already discussed the importance of following good hygiene and health practices for ourselves. But, it is not enough for us to be healthy and hygienic. We must also extend this standard to our homes, our immediate surroundings and to our country as a whole.

The 'Swachh Bharat Abhiyan' (Clean India Mission) launched by Prime Minister Shri Narendra Modi on 2nd October 2014, believes in doing exactly this. The aim of this mission is to clean the streets and roads of India and raise the overall level of cleanliness. Currently this mission covers 4,041 cities and towns across the country. Millions of our people have taken the pledge for a clean India. You should take the pledge too, and do everything possible to keep our country clean!

What are Habits?

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

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

- Always having a positive attitude
- Making exercise a part of your daily routine
- Reading motivational and inspirational stories
- Smiling! Make it a habit to smile as often as possible
- Making time for family and friends
- Going to bed early and waking up early

Some bad habits that you should quit immediately are:

- Skipping breakfast
- Snacking frequently even when you are not hungry
- Eating too much fattening and sugary food
- Smoking, drinking alcohol and doing drugs
- Spending more money than you can afford
- Worrying about unimportant issues
- Staying up late and waking up late

– Tips |

- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health so good hygiene will help you stay strong and healthy!

- 6.1.2: Safety: Tips to Design a Safe Workplace

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

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

Non-Negotiable Employee Safety Habits

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

- Immediately report unsafe conditions to a supervisor
- Recognize and report safety hazards that could lead to slips, trips and falls
- Report all injuries and accidents to a supervisor
- Wear the correct protective equipment when required
- Learn how to correctly use equipment provided for safety purposes
- Be aware of and avoid actions that could endanger other people
- Take rest breaks during the day and some time off from work during the week

Tips

- Be aware of what emergency number to call at the time of a workplace emergency
- Practice evacuation drills regularly to avoid chaotic evacuations

6.1.3 Self Analysis – Attitude, Achievement Motivation: What is Self-Analysis

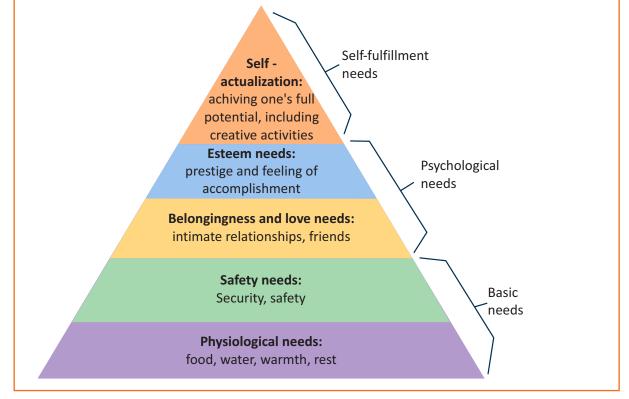
To truly achieve your full potential, you need to take a deep look inside yourself and find out what kind of person you really are. This attempt to understand your personality is known as self-analysis. Assessing yourself in this manner will help you grow, and will also help you to identify areas within yourself that need to be further developed, changed or eliminated. You can better understand yourself by taking a deep look at what motivates you, what your attitude is like, and what your strengths and weaknesses are.

- What is Motivation?

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

Maslow's Hierarchy of Needs -

Famous American psychologist Abraham Maslow wanted to understand what motivates people. He believed that people have five types of needs, ranging from very basic needs (called physiological needs) to more important needs that are required for self-growth (called self-actualization needs). Between the physiological and self-actualization needs are three other needs – safety needs, belongingness and love needs, and esteem needs. These needs are usually shown as a pyramid with five levels and are known as Maslow's Hierarchy of Needs.



As you can see from the pyramid, the lowest level depicts the most basic needs. Maslow believed that our behaviour is motivated by our basic needs, until those needs are met. Once they are fulfilled, we move to the next level and are 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.

– Understanding Achievement Motivation

We now know that people are motivated by basic, psychological and self-fulfillment needs. However, certain people are also motivated by the achievement of highly challenging accomplishments. This is known as Achievement Motivation, or 'need for achievement'.

The level of motivation achievement in a person differs from individual to individual. It is important that entrepreneurs have a high level of achievement motivation – a deep desire to accomplish something important and unique. It is equally important that they hire people who are also highly motivated by challenges and success.

What Motivates You?

What are the things that really motivate you? List down five things that really motivate you. Remember to answer honestly!

I am motivated by:

Characteristics of Entrepreneurs with Achievement Motivation

Entrepreneurs with achievement motivation can be described as follows:

- Unafraid to take risks for personal accomplishment
- Love being challenged
- Future-oriented
- Flexible and adaptive
- Value negative feedback more than positive feedback

Think about it:

• How many of these traits do you have?

- 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
- Can you think of entrepreneurs who display these traits?

How to Cultivate a Positive Attitude

The good news is attitude is a choice. So it is possible to improve, control and change our attitude, if we decide we want to! The following tips help foster a positive mindset:

- Remember that you control your attitude, not the other way around
- Devote at least 15 minutes a day towards reading, watching or listening to something positive
- Avoid negative people who only complain and stop complaining yourself
- Expand your vocabulary with positive words and delete negative phrases from your mind
- Be appreciative and focus on what's good in yourself, in your life, and in others
- Stop thinking of yourself as a victim and start being proactive
- Imagine yourself succeeding and achieving your goals

What is Attitude?

Now that we understand why motivation is so important for self-analysis, let's look at the role our attitude plays in better understanding ourselves. Attitude can be described as your tendency (positive or negative), to think and feel about someone or something. Attitude is the foundation for success in every aspect of life. Our attitude can be our best friend or our worst enemy. In other words:

"The only disability in life is a bad attitude."

When you start a business, you are sure to encounter a wide variety of emotions, from difficult times and failures to good times and successes. Your attitude is what will see you through the tough times and guide you towards success. Attitude is also infectious. It affects everyone around you, from your customers to your employees to your investors. A positive attitude helps build confidence in the workplace while a negative attitude is likely to result in the demotivation of your people.

What Are Your Strengths and Weaknesses?

Another way to analyze yourself is by honestly identifying your strengths and weaknesses. This will help you use your strengths to your best advantage and reduce your weaknesses.

Note down all your strengths and weaknesses in the two columns below. Remember to be honest with yourself!

Strengths	Weaknesses

- Tips 🕴

- Achievement motivation can be learned.
- Don't be afraid to make mistakes.
- Train yourself to finish what you start.
- Dream big.

6.1.4 Honesty & Work Ethics: What is Honesty?

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

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

Qualities of Honest People

Honest individuals have certain distinct characteristics. Some common qualities among honest people are:

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

They are trusted by their peers. They are seen as people who can be counted on for truthful and objective feedback and advice.

- Honesty and employees: When entrepreneurs build honest relationships with their employees, it leads to more transparency in the workplace, which results in higher work performance and better results.
- Honesty and investors: For entrepreneurs, being honest with investors means not only sharing strengths but also candidly disclosing current and potential weaknesses, problem areas and solution strategies. Keep in mind that investors have a lot of experience with startups and are aware that all new companies have problems. Claiming that everything is perfectly fine and running smoothly is a red flag for most investors.
- Honesty with oneself: The consequences of being dishonest with oneself can lead to dire results, especially in the case of entrepreneurs. For entrepreneurs to succeed, it is critical that they remain realistic about their situation at all times, and accurately judge every aspect of their enterprise for what it truly is.

Importance of Honesty in Entrepreneurs

One of the most important characteristics of entrepreneurs is honesty. When entrepreneurs are honest with their customers, employees and investors, it shows that they respect those that they work with. It is also important that entrepreneurs remain honest with themselves. Let's look at how being honest would lead to great benefits for entrepreneurs.

 Honesty and customers: When entrepreneurs are honest with their customers it leads to stronger relationships, which in turn results in business growth and a stronger customer network.

What are Work Ethics?

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

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

Elements of a Strong Work Ethic

An entrepreneur must display strong work ethics, as well as hire only those individuals who believe in and display the same level of ethical behavior in the workplace. Some elements of a strong work ethic are:

- **Professionalism**: This involves everything from how you present yourself in a corporate setting to the manner in which you treat others in the workplace.
- **Respectfulness**: This means remaining poised and diplomatic regardless of how stressful or volatile a situation is.
- **Dependability**: This means always keeping your word, whether it's arriving on time for a meeting or delivering work on time.
- **Dedication**: This means refusing to quit until the designated work is done, and completing the work at the highest possible level of excellence.
- **Determination**: This means embracing obstacles as challenges rather than letting them stop you, and pushing ahead with purpose and resilience to get the desired results.
- Accountability: This means taking responsibility for your actions and the consequences of your actions, and not making excuses for your mistakes.
- **Humility**: This means acknowledging everyone's efforts and had work, and sharing the credit for accomplishments.

How to Foster a Good Work Ethic

As an entrepreneur, it is important that you clearly define the kind of behaviour that you expect from each and every team member in the workplace. You should make it clear that you expect employees to display positive work ethics like:

- **Honesty**: All work assigned to a person should be done with complete honesty, without any deceit or lies.
- **Good attitude**: All team members should be optimistic, energetic, and positive.
- **Reliability**: Employees should show up where they are supposed to be, when they are supposed to be there.
- **Good work habits** Employees should always be well groomed, never use inappropriate language, conduct themselves professionally at all times, etc.
- **Initiative**: Doing the bare minimum is not enough. Every team member needs to be proactive and show initiative.
- **Trustworthiness**: Trust is non-negotiable. If an employee cannot be trusted, it's time to let that employee go.

- **Respect**: Employees need to respect the company, the law, their work, their colleagues and themselves.
- **Integrity**: Each and every team member should be completely ethical and must display above board behaviour at all times.
- **Efficiency**: Efficient employees help a company grow while inefficient employees result in a waste of time and resources.

- Tips

- Don't get angry when someone tells you the truth and you don't like what you hear.
- Always be willing to accept responsibility for your mistakes.

- 6.1.5 Creativity & Innovation : What is Creativity

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

Characteristics of Highly Creative People

Some characteristics of creative people are:

- They are imaginative and playful
- They see issues from different angles
- They notice small details
- They have very little tolerance for boredom

What is Innovation?

There are many different definitions of innovation. In simple terms, innovation means turning an idea into a solution that adds value. It can also mean adding value by implementing a new product, service or process, or significantly improving on an existing product, service or process.

Characteristics of Highly Innovative People

Some characteristics of highly innovative people are:

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

Tips

- Take regular breaks from your creative work to recharge yourself and gain fresh perspective.
- Build prototypes frequently, test them out, get feedback, and make the required changes.

- They detest rules and routine
- They love to daydream
- They are very curious

- 6.1.6 Time Management: What is Time Management?

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

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

Benefits of Time Management

Time management can lead to huge benefits like:

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

Not managing time effectively can result in undesirable consequences like:

- Missing deadlines
- Substandard work quality
- Stalled career

- Inefficient work output
- Poor professional reputation
- Increase in stress and anxiety

Traits of Effective Time Managers

Some traits of effective time managers are:

- They begin projects early
- They set daily objectives
- They modify plans if required, to achieve better results
- They are flexible and open-minded
- They inform people in advance if their help will be required
- They know how to say no

- They break tasks into steps with specific deadlines
- They continually review long term goals
- They think of alternate solutions if and when required
- They ask for help when required
- They create backup plans

Effective Time Management Techniques

You can manage your time better by putting into practice certain time management techniques. Some helpful tips are:

- Plan out your day as well as plan for interruptions. Give yourself at least 30 minutes to figure out your time plan. In your plan, schedule some time for interruptions.
- Put up a "Do Not Disturb" sign when you absolutely have to complete a certain amount of work.
- Close your mind to all distractions. Train yourself to ignore ringing phones, don't reply to chat messages and disconnect from social media sites.

- Delegate your work. This will not only help your work get done faster, but will also show you the unique skills and abilities of those around you.
- Stop procrastinating. Remind yourself that procrastination typically arises due to the fear of failure or the belief that you cannot do things as perfectly as you wish to do them.
- Prioritize. List each task to be completed in order of its urgency or importance level. Then focus on completing each task, one by one.
- Maintain a log of your work activities. Analyze the log to help you understand how efficient you are, and how much time is wasted every day. Create time management goals to reduce time wastage.

- Tips

- Always complete the most important tasks first.
- Get at least 7 8 hours of sleep every day.
- Start your day early.
- Don't waste too much time on small, unimportant details.
- Set a time limit for every task that you will undertake.
- Give yourself some time to unwind between tasks.

- 6.1.7 Anger Management: What is Anger Management

Anger management is the process of:

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

Anger management does not mean suppressing anger.

Importance of Anger Management

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

- **Hurt you physically:** It leads to heart disease, diabetes, a weakened immune system, insomnia, and high blood pressure.
- **Hurt you mentally**: It can cloud your thinking and lead to stress, depression and mental health issues.
- **Hurt your career**: It can result in alienating your colleagues, bosses, clients and lead to the loss of respect.
- Hurt your relationships: It makes it hard for your family and friends to trust you, be honest with you and feel comfortable around you. This is why anger management, or managing anger appropriately, is so important.

Anger Management Strategies

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

Strategy 1: Relaxation

Something as simple as breathing deeply and looking at relaxing images works wonders in calming down angry feelings. Try this simple breathing exercise:

- 1. Take a deep breath from your diaphragm (don't breathe from your chest)
- 2. Visualize your breath coming up from your stomach
- 3. Keep repeating a calming word like 'relax' or 'take it easy' (remember to keep breathing deeply while repeating the word)
- 4. Picture a relaxing moment (this can be from your memory or your imagination)

Follow this relaxation technique daily, especially when you realize that you're starting to feel angry.

Strategy 2: Cognitive Restructuring

Cognitive restructuring means changing the manner in which you think. Anger can make you curse, swear, exaggerate and act very dramatically. When this happens, force yourself to replace your angry thoughts with more logical ones. For instance, instead of thinking 'Everything is ruined' change your mindset and tell yourself 'It's not the end of the world and getting angry won't solve this'.

Strategy 3: Problem Solving

Getting angry about a problem that you cannot control is a perfectly natural response. Sometimes, try as you may, there may not be a solution to the difficulty you are faced with. In such cases, stop focusing on solving the problem, and instead focus on handling and facing the problem. Remind yourself that you will do your best to deal with the situation, but that you will not blame yourself if you don't get the solution you desire.

Strategy 4: Better Communication

When you're angry, it is very easy to jump to inaccurate conclusions. In this case, you need to force yourself to stop reacting, and think carefully about what you want to say, before saying it. Avoid saying the first thing that enters your head. Force yourself to listen carefully to what the other person is saying. Then think about the conversation before responding.

Strategy 5: Changing Your Environment

If you find that your environment is the cause of your anger, try and give yourself a break from your surroundings. Make an active decision to schedule some personal time for yourself, especially on days that are very hectic and stressful. Having even a brief amount of quiet or alone time is sure to help calm you down.

Tips for Anger Management

- The following tips will help you keep your anger in check:
- Take some time to collect your thoughts before you speak out in anger.
- Express the reason for your anger in an assertive, but non-confrontational manner once you have calmed down.
- Do some form of physical exercise like running or walking briskly when you feel yourself getting angry.
- Make short breaks part of your daily routine, especially during days that are stressful.
 Focus on how to solve a problem that's making you angry, rather than focusing on the fact that the problem is making you angry.

Tips

- Try to forgive those who anger you, rather than hold a grudge against them.
- Avoid using sarcasm and hurling insults. Instead, try and explain the reason for your frustration in a polite and mature manner.

- 6.1.8 Stress Management: What is Stress

We say we are 'stressed' when we feel overloaded and unsure of our ability to deal with the pressures placed on us. Anything that challenges or threatens our well-being can be defined as a stress. It is important to note that stress can be good and bad. While good stress keeps us going, negative stress undermines our mental and physical health. This is why it is so important to manage negative stress effectively.

Causes of Stress

Stress can be caused by internal and external factors.

Internal causes of stress

- Constant worry
- Rigid thinking
- Unrealistic expectations

External causes of stress

- Major life changes
- Difficulties with relationships
- Having too much to do

- Pessimism
- Negative self-talk
- All in or all out attitude
- Difficulties at work or in school
- Financial difficulties
- Worrying about one's children and/or family

Symptoms of Stress

Stress can manifest itself in numerous ways. Take a look at the cognitive, emotional, physical and behavioral symptoms of stress.

Cognitive Symptoms	Emotional Symptoms
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.

Tips to Manage Stress

The following tips can help you manage your stress better:

- Note down the different ways in which you can handle the various sources of your stress.
- Remember that you cannot control everything, but you can control how you respond.
- Discuss your feelings, opinions and beliefs rather than reacting angrily, defensively or passively.
- Practice relaxation techniques like meditation, yoga or tai chi when you start feeling stressed.
- Devote a part of your day towards exercise.
- Eat healthy foods like fruits and vegetables. Avoid unhealthy foods especially those containing large amounts of sugar.
- Plan your day so that you can manage your time better, with less stress.
- Say no to people and things when required.
- Schedule time to pursue your hobbies and interests.
- Ensure you get at least 7-8 hours of sleep.
- Reduce your caffeine intake.
- Increase the time spent with family and friends.

Tips

- Force yourself to smile even if you feel stressed. Smiling makes us feel relaxed and happy.
- Stop yourself from feeling and thinking like a victim. Change your attiude and focus on being proactive.

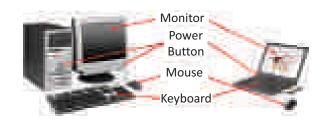
UNIT 6.2. Digital Literacy: A Recap

Unit Objectives

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

- 1. Identify the basic parts of a computer
- 2. Identify the basic parts of a keyboard
- 3. Recall basic computer terminology
- 4. Recall basic computer terminology
- 5. Recall the functions of basic computer keys
- 6. Discuss the main applications of MS Office
- 7. Discuss the benefits of Microsoft Outlook
- 8. Discuss the different types of e-commerce
- 9. List the benefits of e-commerce for retailers and customers
- 10. Discuss how the Digital India campaign will help boost e-commerce in India
- 11. Describe how you will sell a product or service on an e-commerce platform

6.2.1 Computer and Internet basics: Basic Parts of a Computer



Basic Parts of a Keyboard-



Shift Space Enter Arrow Keys

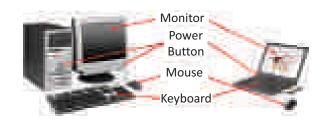
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6.2.1 Computer and Internet basics: Basic Parts of a Computer



Basic Parts of a Keyboard-



Shift Space Enter Arrow Keys

Basic Parts of a Computer

- **Central Processing Unit (CPU)**: The brain of the computer. It interprets and carries out program instructions.
- Hard Drive: A device that stores large amounts of data.
- **Monitor**: The device that contains the computer screen where the information is visually displayed.
- **Desktop**: The first screen displayed after the operating system loads.
- **Background**: The image that fills the background of the desktop.

Basic Parts of a Computer

- **Mouse**: A hand-held device used to point to items on the monitor.
- **Speakers**: Devices that enable you to hear sound from the computer.
- **Printer**: A device that converts output from a computer into printed paper documents.
- Icon: A small picture or image that visually represents something on your computer.
- **Cursor**: An arrow which indicates where you are positioned on the screen.
- **Program Menu**: A list of programs on your computer that can be accessed from the Start menu.
- **Taskbar**: The horizontal bar at the bottom of the computer screen that lists applications that are currently in use.
- **Recycle Bin**: A temporary storage for deleted files.

Basic Internet Terms

- **TheInternet**: 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.

- Basic Computer Keys

- Arrow Keys: Press these keys to move your cursor.
- **Space bar**: Adds a space.
- Enter/Return: Moves your cursor to a new line.
- Shift: Press this key if you want to type a capital letter or the upper symbol of a key.
- **Caps Lock**: Press this key if you want all the letters you type to be capital letters. Press it again to revert back to typing lowercase letters.
- **Backspace**: Deletes everything to the left of your cursor.

– Tips 🕴

- When visiting a .com address, there no need to type http:// or even www. Just type the name of the website and then press Ctrl + Enter. (Example: Type 'apple' and press Ctrl + Enter to go to <u>www.apple.com</u>)
- Press the Ctrl key and press the + or to increase and decrease the size of text.
- Press F5 or Ctrl + R to refresh or reload a web page.

- 6.2.2 MS Office and Email: About MS Office

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

Most Popular Office Products

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

- Microsoft Word: Allows users to type text and add images to a document.
- Microsoft Excel: Allows users to enter data into a spreadsheet and create calculations and graphs.
- Microsoft PowerPoint: Allows users to add text, pictures and media and create slideshows and presentations.
- Microsoft Outlook: Allows users to send and receive email.
- Microsoft OneNote: Allows users to make drawings and notes with the feel of a pen on paper.
- Microsoft Access: Allows users to store data over many tables.

Why Choose Microsoft Outlook

A popular email management choice especially in the workplace, Microsoft Outlook also includes an address book, notebook, web browser and calendar. Some major benefits of this program are:

- Integrated search function You can use keywords to search for data across all Outlook programs.
- Enhanced security: Your email is safe from hackers, junk mail and phishing website email.
- **Email syncing**: Sync your mail with your calendar, contact list, notes in One Note and...your phone!
- Offline access to email No Internet? No problem! Write emails offline and send them when you're connected again.

- Tips |

- Press Ctrl+R as a shortcut method to reply to email.
- Set your desktop notifications only for very important emails.
- Flag messages quickly by selecting messages and hitting the Insert key.
- Save frequently sent emails as a template to reuse again and again.
- Conveniently save important emails as files.

– 6.2.3 E-Commerce: What is E-Commerce

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

Examples of E-Commerce

Some examples of e-commerce are:

Online shopping

Electronic payments

Online auctions

Internet banking

Online ticketing

Types of E-Commerce

E-commerce can be classified based on the types of participants in the transaction. The main types of e-commerce are:

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

- Benefits of E-Commerce

The e-commerce business provides some benefits for retailers and customers.

Benefits for retailers:

- Establishes an online presence
- Reduces operational costs by removing overhead costs
- Increases brand awareness through the use of good keywords
- Increases sales by removing geographical and time constraints

Benefits for customers:

- Offers a wider range of choice than any physical store
- Enables goods and services to be purchased from remote locations
- Enables consumers to perform price comparisons

- Digital India Campaign

Prime Minister Narendra Modi launched the Digital India campaign in 2015, with the objective of offering every citizen of India access to digital services, knowledge and information. The campaign aims to improve the country's online infrastructure and increase internet connectivity, thus boosting the e-commerce industry.

Currently, the majority of online transactions come from tier 2 and tier 3 cities. Once the Digital India campaign is in place, the government will deliver services through mobile connectivity, which will help deliver internet to remote corners of the country. This will help the e-commerce market to enter India's tier 4 towns and rural areas.

- E-Commerce Activity -

Choose a product or service that you want to sell online. Write a brief note explaining how you will use existing e-commerce platforms, or create a new e-commerce platform, to sell your product or service.



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

UNIT 6.3: Money Matters

Unit Objectives

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

- 1. Discuss the importance of saving money
- 2. Discuss the benefits of saving money
- 3. Discuss the main types of bank accounts
- 4. Describe the process of opening a bank account
- 5. Differentiate between fixed and variable costs
- 6. Describe the main types of investment options
- 7. Describe the different types of insurance products
- 8. Describe the different types of taxes
- 9. Discuss the uses of online banking
- 10. Discuss the main types of electronic funds transfers

- 6.3.1 Personal Finance – Why to Save: Importance of Saving

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

Benefits of Saving

Inculcating the habit of saving leads to a vast number of benefits. Saving helps you:

- **Become financially independent**: When you have enough money saved up to feel secure you can start making your choices, from taking a vacation whenever you want, to switching careers or starting your own business.
- Invest in yourself through education: Through saving, you can earn enough to pay up for courses that will add to your professional experience and ultimately result in higher paying jobs.
- **Get out of debt**: Once you have saved enough as a reserve fund, you can use your savings to pay off debts like loans or bills that have accumulated over time.
- **Be prepared for surprise expenses** : Having money saved enables you to pay for unforeseen expenses like sudden car or house repairs, without feeling financially stressed.
- **Pay for emergencies**: Saving helps you deal with emergencies like sudden health issues or emergency trips without feeling financially burdened.

- Afford large purchases and achieve major goals: Saving diligently makes it possible to place down payments towards major purchases and goals, like buying a home or a car.
- **Retire**: The money you have saved over the years will keep you comfortable when you no longer have the income you would get from your job.

– Tips 🛛

- Break your spending habit. Try not spending on one expensive item per week, and put the money that you would have spent into your savings.
- Decide that you will not buy anything on certain days or weeks and stick to your word.

6.3.2 Types of Bank Accounts, Opening a Bank Account: Types of Bank Accounts

In India, banks offer four main types of bank accounts. These are:

- Current Accounts
- Savings Accounts
- Recurring Deposit Accounts
- Fixed Deposit Accounts

Current Accounts

Current accounts offer the most liquid deposits and thus, are best suited for businessmen and companies. As these accounts are not meant for investments and savings, there is no imposed limit on the number or amount of transactions that can be made on any given day. Current account holders are not paid any interest on the amounts held in their accounts. They are charged for certain services offered on such accounts.

Savings Accounts

Savings accounts are meant to promote savings, and are therefore the number one choice for salaried individuals, pensioners and students. While there is no restriction on the number and amount of deposits made, there are usually restrictions on the number and amount of withdrawals. Savings account holders are paid interest on their savings.

Recurring Deposit Accounts

Recurring Deposit accounts, also called RD accounts, are the accounts of choice for those who want to save an amount every month, but are unable to invest a large sum at one time. Such account holders deposit a small, fixed amount every month for a pre-determined period (minimum 6 months). Defaulting on a monthly payment results in the account holder being charged a penalty amount. The total amount is repaid with interest at the end of the specified period.

Fixed Deposit Accounts

Fixed Deposit accounts, also called FD accounts, are ideal for those who wish to deposit their savings for a long term in return for a high rate of interest. The rate of interest offered depends on the amount deposited and the time period, and also differs from bank to bank. In the case of an FD, a certain amount of money is deposited by the account holder for a fixed period of time. The money can be withdrawn when the period expires. If necessary, the depositor can break the fixed deposit prematurely. However, this usually attracts a penalty amount which also differs from bank to bank.

Opening a Bank Account -

Opening a bank account is quite a simple process. Take a look at the steps to open an account of your own:

Step 1: Fill in the Account Opening Form

This form requires you to provide the following information:

- Personal details (name, address, phone number, date of birth, gender, occupation, address)
- Method of receiving your account statement (hard copy/email)
- Details of your initial deposit (cash/cheque)
- Manner of operating your account (online/mobile banking/traditional via cheque, slip books) Ensure that you sign wherever required on the form.

Step 2: Affix your Photograph

Stick a recent photograph of yourself in the allotted space on the form.

Step 3: Provide your Know Your Customer (KYC) Details

KYC is a process that helps banks verify the identity and address of their customers. To open an account, every individual needs to submit certain approved documents with respect to photo identity (ID) and address proof. Some Officially Valid Documents (OVDs) are:

- Passport
- Driving License
- Voters' Identity Card
- PAN Card
- UIDAI (Aadhaar) Card

Step 4: Submit All your Documents

Submit the completed Account Opening Form and KYC documents. Then wait until the forms are processed and your account has been opened!

Tips 🛛

- Select the right type of account.
- Fill in complete nomination details.
- Ask about fees.
- Understand the rules.
- Check for online banking it's convenient!
- Keep an eye on your bank balance.

6.3.3 Costs: Fixed vs Variable: What are Fixed and Variable Costs

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

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

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

Differences Between Fixed and Variable Costs

Let's take a look at some of the main differences between fixed and variable costs:

Criteria	Fixed Costs	Variable Costs	
Meaning	A cost that stays the same, regardless of the output produced.	A cost that changes when the	
Nature	Time related.	Volume related.	
Incurred	Incurred irrespective of units being Incurred only when units are produce produced.		
Unit cost	Inversely proportional to the number of units produced.	Remains the same, per unit.	
Examples	Depreciation, rent, salary, insurance, tax etc.	Material consumed, wages, commission on sales, packing expenses, etc.	

– Tips 🛛

• When trying to determine whether a cost is fixed or variable, simply ask the following question: Will the particular cost change if the company stopped its production activities? If the answer is no, then it is a fixed cost. If the answer is yes, then it is probably a variable cost.

6.3.4 Investment, Insurance and Taxes: Investment

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

- **Bonds:** Bonds are instruments used by public and private companies to raise large sums of money too large to be borrowed from a bank. These bonds are then issued in the public market and are bought by lenders.
- **Stocks:** Stocks or equity are shares that are issued by companies and are bought by the general public.
- Small Savings Schemes: Small Savings Schemes are tools meant to save money in small amounts. Some popular schemes are the Employees Provident Fund, Sukanya Samriddhi Scheme and National Pension Scheme.
- **Mutual Funds:** Mutual Funds are professionally managed financial instruments that invest money in different securities on behalf of investors.
- **Fixed Deposits:** A fixed amount of money is kept aside with a financial institution for a fixed amount of time in return for interest on the money.
- **Real Estate:** Loans are taken from banks to purchase real estate, which is then leased or sold with the aim of making a profit on the appreciated property price.
- **Hedge Funds:** Hedge funds invest in both financial derivatives and/or publicly traded securities.
- **Private Equity:** Private Equity is trading in the shares of an operating company that is not publicly listed and whose shares are not available on the stock market.
- **Venture Capital:** Venture Capital involves investing substantial capital in a budding company in return for stocks in that company.

Insurance -

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

Life Insurance

Life Insurance deals with all insurance covering human life.

Life Insurance Products

The main life insurance products are:

- **Term Insurance:** This is the simplest and cheapest form of insurance. It offers financial protection for a specified tenure, say 15 to 20 years. In the case of your death, your family is paid the sum assured. In the case of your surviving the term, the insurer pays nothing.
- Endowment Policy: This offers the dual benefit of insurance and investment. Part of the premium is allocated towards the sum assured, while the remaining premium gets invested in equity and debt. It pays a lump sum amount after the specified duration or on the death of the policyholder, whichever is earlier.
- Unit-Linked Insurance Plan (ULIP): Here part of the premium is spent on the life cover, while the remaining amount is invested in equity and debt. It helps develop a regular saving habit.

- **Money Back Life Insurance:**While the policyholder is alive, periodic payments of the partial survival benefits are made during the policy tenure. On the death of the insured, the insurance company pays the full sum assured along with survival benefits.
- Whole Life Insurance: It offers the dual benefit of insurance and investment. It offers insurance cover for the whole life of the person or up to 100 years whichever is earlier.

General Insurance

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

General Insurance Products

The main general insurance products are:

- **Motor Insurance:** This can be divided into Four Wheeler Insurance and Two Wheeler Insurance.
- **Health Insurance:** The main types of health insurance are individual health insurance, family floater health insurance, comprehensive health insurance and critical illness insurance.
- **Travel Insurance:** This can be categorised into Individual Travel Policy, Family Travel Policy, Student Travel Insurance and Senior Citizen Health Insurance.
- **Home Insurance:** This protects the house and its contents from risk.
- Marine Insurance: This insurance covers goods, freight, cargo etc. against loss or damage during transit by rail, road, sea and/or air.

Taxes

There are two types of taxes – Direct Taxes and Indirect Taxes.

Direct Tax

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

Some examples of Direct Taxes are:

- **Income Tax:** This tax is levied on your earning in a financial year. It is applicable to both, individuals and companies.
- **Capital Gains Tax:** This tax is payable whenever you receive a sizable amount of money. It is usually of two types – short term capital gains from investments held for less than 36 months and long term capital gains from investments held for longer than 36 months.
- Securities Transaction Tax: This tax is added to the price of a share. It is levied every time you buy or sell shares.
- **Perquisite Tax:** This tax is levied 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.

- Tips

- Think about how quickly you need your money back and pick an investment option accordingly.
- Ensure that you are buying the right type of insurance policy for yourself.
- Remember, not paying taxes can result in penalties ranging from fines to imprisonment.

- 6.3.5 Online Banking, NEFT, RTGS etc.: What is Online Banking

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

Internet banking can be used to:

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

Electronic Funds Transfers

Electronic funds transfer is a convenient way of transferring money from the comfort of one's own home, using integrated banking tools like internet and mobile banking.

Transferring funds via an electronic gateway is extremely convenient. With the help of online banking, you can choose to:

- Transfer funds into your own accounts of the same bank.
- Transfer funds into different accounts of the same bank.
- Transfer funds into accounts in different banks, using NEFT.
- Transfer funds into other bank accounts using RTGS.
- Transfer funds into various accounts using IMPS.

NEFT -

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

In order to transfer funds via NEFT, two things are required:

- A transferring bank
- A destination bank

Before you can transfer funds through NEFT, you will need to register the beneficiary who will be receiving the funds. In order to complete this registration, you will require the following

- 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
- Beneficiary's bank's IFSC code

IMPS ·

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

To transfer money through IMPS, the you need to:

- Register for IMPS with your bank
- Receive a Mobile Money Identifier (MMID) from the bank
- Receive a MPIN from the bank

Once you have both these, you can login or make a request through SMS to transfer a particular amount to a beneficiary.

For the beneficiary to receive the transferred money, he must:

- 1. Link his mobile number with his respective account
- 2. Receive the MMID from the bank

In order to initiate a money transfer through IMPS, you will need to enter the following information:

- 1. The beneficiary's mobile number
- 2. The beneficiary's MMID
- 3. The transfer amount
- 4. Your MPIN

As soon as money has been deducted from your account and credited into the beneficiary's account, you will be sent a confirmation SMS with a transaction reference number, for future reference.

- Differences Between NEFT, RTGS & IMPS

Criteria	NEFT	RTGS	IMPS	
Settlement	Done in batches	Real-time	Real-time Immediate Payment Service	
Full form	National Electronic Fund Transfer	Real Time Gross Settlement		
Timings on Monday – Friday	. .		24x7	
-			24x7	
Minimum amount of money transfer limit`1Maximum amount of money transfer limit`10 lacs		`2 lacs	`1	
		`10 lacs per day	`2 lacs	
Maximum charges as per RBI	Upto 10,000 – `2.5 above 10,000 – 1 lac – `5 above 1 – 2 lacs – `15 above 2 – 5 lacs – `25 above 5 – 10 lacs – `25	above 2 – 5 lacs – `25 above 5 – 10 lacs – `50	Upto 10,000 – `5 above 10,000 – 1 lac – `5 above 1 – 2 lacs – `15	

- Tips 🕴

- Never click on any links in any e-mail message to access your online banking website.
- You will never be asked for your credit or debit card details while using online banking.
- Change your online banking password regularly.

UNIT 6.4. Preparing for Employment & Self Employment

Unit Objectives

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

- 1. Discuss the steps to prepare for an interview
- 2. Discuss the steps to create an effective Resume
- 3. Discuss the most frequently asked interview questions
- 4. Discuss how to answer the most frequently asked interview questions
- 5. Discuss basic workplace terminology

6.4.1 Interview Preparation: How to Prepare for an Interview

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

- 1. Research the organization that you are having the interview with.
 - Studying the company beforehand will help you be more prepared at the time of the interview. Your knowledge of the organization will help you answer questions at the time of the interview, and will leave you looking and feeling more confident. This is sure to make you stand out from other, not as well informed, candidates.
 - Look for background information on the company. 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?
 - o What are the opportunities for advancement?
 - What are the next steps in the hiring process?
- Remember, never ask for information that is easily available on the company website.

- Tips

- Ask insightful and probing questions.
- When communicating, use effective forms of body language like smiling, making eye contact, and actively listening and nodding. Don't slouch, play with nearby items, fidget, chew gum, or mumble.

6.4.2 Preparing an Effective Resume: How to Create an Effective Resume

A resume is a formal document that lists a candidate's work experience, education and skills. A good resume gives a potential employer enough information to believe the applicant is worth interviewing. That's why it is so important to create a résumé that is effective. Take a look at the steps to create an effective resume:

Step 1: Write the Address Section

The Address section occupies the top of your resume. It includes information like your name, address, phone number and e-mail address. Insert a bold line under the section to separate it from rest of your resume.

Example:

Jasmine Watts Breach Candy, Mumbai – India Contact No: +91 2223678270 Email: jasmine.watts@gmail.com

Step 2: Add the Profile Summary Section

This part of your resume should list your overall experiences, achievements, awards, certifications and strengths. You can make your summary as short as 2-3 bullet points or as long as 8-10 bullet points.

Example:

Profile Summary

- A Content Writer graduated from University of Strathclyde having 6 years of experience in writing website copy.
- Core expertise lies in content creation for e-learning courses, specifically for the K-12 segment.

Step 3: Include Your Educational Qualifications

When listing your academic records, first list your highest degree. Then add the second highest qualification under the highest one and so on. To provide a clear and accurate picture of your educational background, it is critical that include information on your position, rank, percentage or CPI for every degree or certification that you have listed.

If you have done any certifications and trainings, you can add a Trainings & Certifications section under your Educational Qualifications section.

Example:

Educational Qualifications

- Masters in International Management (2007) from Columbia University with 8.8 CPI.
- Bachelor of Management Studies (2004) from Mumbai University with 87% marks.
- 10+2 with Math, Stats (2001) from Maharashtra Board with 91% marks.
- High School (1999) from Maharashtra Board with 93% marks.

Step 4: List Your Technical Skills

When listing your technical skills, start with the skills that you are most confident about. Then add the skills that you do not have as good a command over. It is perfectly acceptable to include just one skill, if you feel that particular skill adds tremendous value to your résumé. If you do not have any technical skills, you can omit this step. **Example:**

Technical	Skills
recinical	JKIIIJ

- Flash
- Photoshop

Step 5: Insert Your Academic Project Experience

List down all the important projects that you have worked on. Include the following information in this section:

•	Project title	•	Organization	•	Platform used
•	Contribution	•	Description		

Example:

Academic Projects

Project Title: Different Communication Skills

Organization: True Blue Solutions

Platform used: Articulate

Contribution: Content writing and graphic visualization

Description: Development of storyboards for corporate induction & training programs

Step 6: List Your Strengths

This is where you list all your major strengths. This section should be in the form of a bulleted list. **Example:**

Strengths

- Excellent oral, written and presentation skills
- Action-oriented and result-focused
- Great time management skills

Step 7: List Your Extracurricular Activities

It is very important to show that you have diverse interests and that your life consists of more than academics. Including your extracurricular activities can give you an added edge over other candidates who have similar academic scores and project experiences. This section should be in the form of a bulleted list.

Extracurricular Activities				
 Member of the Debat 	Member of the Debate Club			
Played tennis at a national level				
• Won first prize in the	All India Camel Contest, 2010			
ep 8: Write Your Persona	l Details			
-	umé must include the following personal information:			
Date of birth	Gender & marital status			
Nationality	Languages known			
kample:				
Personal Details				
• Date of birth:	25 th May, 1981			
Gender & marital stat	:us: Female, Single			
 Nationality: 	Indian			
 Languages known: 	English, Hindi, Tamil, French			

Tips 🔍

- Keep your resume file name short, simple and informational.
- Make sure the resume is neat and free from typing errors.
- Always create your resume on plain white paper.

6.4.3 Interview FAQs

Take a look at some of the most frequently asked interview questions, and some helpful tips on how to answer them.

Q1. Can you tell me a little about yourself?

Tips to answer:

- Don't provide your full employment or personal history.
- Offer 2-3 specific experiences that you feel are most valuable and relevant.
- Conclude with how those experiences have made you perfect for this specific role.

Q2. How did you hear about the position?

Tips to answer:

- Tell the interviewer how you heard about the job whether it was through a friend (name the friend), event or article (name them) or a job portal (say which one).
- Explain what excites you about the position and what in particular caught your eye about this role.

Q3. What do you know about the company?

Tips to answer:

- Don't recite the company's About Us page.
- Show that you understand and care about the company's goals.
- Explain why you believe in the company's mission and values.

Q4. Why do you want this job?

Tips to answer:

- Show that you are passionate about the job.
- Identify why the role is a great fit for you.
- Explain why you love the company.

Q5. Why should we hire you?

Tips to answer:

- Prove through your words that you can not only do the work, but can definitely deliver excellent results.
- Explain why you would be a great fit with the team and work culture.
- Explain why you should be chosen over any other candidate.

Q6. What are your greatest professional strengths?

Tips to answer:

- Be honest share some of your real strengths, rather than give answers that you think sound good.
- Offer examples of specific strengths that are relevant to the position you are applying for.
- Provide examples of how you've demonstrated these strengths.

Q7. What do you consider to be your weaknesses?

Tips to answer:

- The purpose of this question is to gauge your self-awareness and honesty.
- Give an example of a trait that you struggle with, but that you're working on to improve.

Q8. What are your salary requirements?

Tips to answer:

- Do your research beforehand and find out the typical salary range for the job you are applying for.
- Figure out where you lie on the pay scale based on your experience, education, and skills.
- Be flexible. Tell the interviewer that you know your skills are valuable, but that you want the job and are willing to negotiate.

Q9. What do you like to do outside of work?

Tips to answer:

- The purpose of this question is to see if you will fit in with the company culture.
- Be honest open up and share activities and hobbies that interest and excite you.

Q10. If you were an animal, which one would you want to be?

Tips to answer:

- The purpose of this question is to see if you are able to think on your feet.
- There's no wrong answer but to make a great impression try to bring out your strengths or personality traits through your answer.

Q11: What do you think we could do better or differently?

Tips to answer:

- The purpose of this question is to see if you have done your research on the company, and to test whether you can think critically and come up with new ideas.
- Suggest new ideas. Show how your interests and expertise would help you execute these ideas.

Q12: Do you have any questions for us?

Tips to answer:

- Do not ask questions to which the answers can be easily found on the company website or through a quick online search.
- Ask intelligent questions that show your ability to think critically.

– Tips

- Be honest and confident while answering.
- Use examples of your past experiences wherever possible to make your answers more impactful.

6.4.4 Work Readiness – Terms & Terminologies: Basic Workplace Terminology

Every employee should be well versed in the following terms:

- Annual leave: Paid vacation leave given by employers to employees.
- **Background Check:** A method used by employers to verify the accuracy of the information provided by potential candidates.
- **Benefits:** A part of an employee's compensation package.
- Breaks: Short periods of rest taken by employees during working hours.
- **Compensation Package:** The combination of salary and benefits that an employer provides to his/her employees.
- Compensatory Time (Comp Time): Time off in lieu of pay.
- **Contract Employee:** An employee who works for one organization that sells said employee's services to another company, either on a project or time basis.
- **Contract of Employment:** When an employee is offered work in exchange for wages or salary, and accepts the offer made by the employer, a contract of employment exists.
- **Corporate Culture:** The beliefs and values shared by all the members of a company, and imparted from one generation of employees to another.
- **Counter Offer/Counter Proposal:** A negotiation technique used by potential candidates to increase the amount of salary offered by a company.
- **Cover Letter:** A letter that accompanies a candidate's resume. It emphasizes the important points in the candidate's resume and provides real examples that prove the candidate's ability to perform the expected job role.
- **Curriculum Vitae (CV)/Resume:** A summary of a candidate's achievements, educational background, work experience, skills and strengths.
- **Declining Letter:** A letter sent by an employee to an employer, turning down the job offer made by the employer to the employee.
- **Deductions:** Amounts subtracted from an employee's pay and listed on the employee's pay slip.
- **Discrimination:** The act of treating one person not as favourably as another person.
- **Employee:** A person who works for another person in exchange for payment.
- **Employee Training:** A workshop or in-house training that an employee is asked to attend by his or her superior, for the benefit of the employer.
- **Employment Gaps:** Periods of unemployed time between jobs.
- **Fixed-Term Contract:** A contract of employment which gets terminated on an agreed-upon date.
- Follow-Up: The act of contacting a potential employer after a candidate has submitted his or her resume.
- Freelancer/Consultant/Independent Contractor: A person who works for him or herself and pitches for temporary jobs and projects with different employers.
- Holiday: Paid time-off from work.
- Hourly Rate: The amount of salary or wages paid for 60 minutes of work.

- **Internship**: A job opportunity offered by an employer to a potential employee, called an intern, to work at the employer's company for a fixed, limited time period.
- **Interview**: A conversation between a potential employee and a representative of an employer, in order to determine if the potential employee should be hired.
- Job Application: A form which asks for a candidate's information like the candidate's name, address, contact details and work experience. The purpose of a candidate submitting a job application, is to show that candidate's interest in working for a particular company.
- **Job Offer**: An offer of employment made by an employer to a potential employee.
- **Job Search Agent**: A program that enables candidates to search for employment opportunities by selecting criteria listed in the program, for job vacancies.
- Lay Off: A lay off occurs when an employee is temporarily let go from his or her job, due to the employer not having any work for that employee.
- Leave: Formal permission given to an employee, by his or her employer, to take a leave of absence from work.
- Letter of Acceptance: A letter given by an employer to an employee, confirming the offer of employment made by the employer, as well as the conditions of the offer.
- Letter of Agreement: A letter that outlines the terms of employment.
- Letter of Recommendation: A letter written for the purpose of validating the work skills of a person.
- **Maternity Leave**: Leave taken from work by women who are pregnant, or who have just given birth.
- **Mentor**: A person who is employed at a higher level than you, who offers you advice and guides you in your career.
- Minimum wage: The minimum wage amount paid on an hourly basis.
- **Notice**: An announcement made by an employee or an employer, stating that the employment contract will end on a particular date.
- Offer of Employment: An offer made by an employer to a prospective employee that contains important information pertaining to the job being offered, like the starting date, salary, working conditions etc.
- **Open-Ended Contract**: A contract of employment that continues till the employer or employee terminates it.
- **Overqualified**: A person who is not suited for a particular job because he or she has too many years of work experience, or a level of education that is much higher than required for the job, or is currently or was previously too highly paid.
- **Part-Time Worker**: An employee who works for fewer hours than the standard number of hours normally worked.
- **Paternity Leave**: Leave granted to a man who has recently become a father.
- **Recruiters/Headhunters/Executive Search Firms**: Professionals who are paid by employers to search for people to fill particular positions.
- **Resigning/Resignations**: When an employee formally informs his or her employer that he or she is quitting his or her job.
- **Self-Employed**: A person who has his or her own business and does not work in the capacity of an employee.
- **Time Sheet**: A form that is submitted to an employer, by an employee, that contains the number of hours worked every day by the employee.

UNIT 6.5. Understanding Entrepreneurship

- Unit Objectives 🛛 🙆

- 1. At the end of this unit, you will be able to:
- 2. Discuss the concept of entrepreneurship
- 3. Discuss the importance of entrepreneurship
- 4. Describe the characteristics of an entrepreneur
- 5. Describe the different types of enterprises
- 6. List the qualities of an effective leader
- 7. Discuss the benefits of effective leadership
- 8. List the traits of an effective team
- 9. Discuss the importance of listening effectively
- 10. Discuss how to listen effectively
- 11. Discuss the importance of speaking effectively
- 12. Discuss how to speak effectively
- 13. Discuss how to solve problems
- 14. List important problem solving traits
- 15. Discuss ways to assess problem solving skills
- 16. Discuss the importance of negotiation
- 17. Discuss how to negotiate
- 18. Discuss how to identify new business opportunities
- 19. Discuss how to identify business opportunities within your business
- 20. Understand the meaning of entrepreneur
- 21. Describe the different types of entrepreneurs
- 22. List the characteristics of entrepreneurs
- 23. Recall entrepreneur success stories
- 24. Discuss the entrepreneurial process
- 25. Describe the entrepreneurship ecosystem
- 26. Discuss the government's role in the entrepreneurship ecosystem
- 27. Discuss the current entrepreneurship ecosystem in India
- 28. Understand the purpose of the Make in India campaign
- 29. Discuss the relationship between entrepreneurship and risk appetite
- 30. Discuss the relationship between entrepreneurship and resilience
- 31. Describe the characteristics of a resilient entrepreneur
- 32. Discuss how to deal with failure

6.5.1 Concept Introduction, (Characteristic of an Entrepreneur, types of firms / types of enterprises): Entrepreneurs and Entrepreneurship

Anyone who is determined to start a business, no matter what the risk, is an entrepreneur. Entrepreneurs run their own start-up, take responsibility for the financial risks and use creativity, innovation and vast reserves of self-motivation to achieve success. They dream big and are determined to do whatever it takes to turn their idea into a viable offering. The aim of an entrepreneur is to create an enterprise. The process of creating this enterprise is known as entrepreneurship.

Importance of Entrepreneurship

Entrepreneurship is very important for the following reasons:

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

Characteristics of Entrepreneurs

All successful entrepreneurs have certain characteristics in common.

They are all:

- Extremely passionate about their work
- Confident in themselves
- Disciplined and dedicated
- Motivated and driven
- Highly creative
- Visionaries
- Open-minded
- Decisive

Entrepreneurs also have a tendency to:

- Have a high risk tolerance
- Thoroughly plan everything
- Manage their money wisely
- Make their customers their priority
- Understand their offering and their market in detail
- Ask for advice from experts when required
- Know when to cut their losses

- Examples of Famous Entrepreneurs

Some famous entrepreneurs are:

- Bill Gates (Founder of Microsoft)
- Steve Jobs (Co-founder of Apple)
- Mark Zuckerberg (Founder of Facebook)
- Pierre Omidyar (Founder of eBay)

Types of Enterprises

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

Sole Proprietorship

In a sole proprietorship, a single individual owns, manages and controls the enterprise. This type of business is the easiest to form with respect to legal formalities. The business and the owner have no separate legal existence. All profit belongs to the proprietor, as do all the losses - the liability of the entrepreneur is unlimited.

Partnership

A partnership firm is formed by two or more people. The owners of the enterprise are called partners. A partnership deed must be signed by all the partners. The firm and its partners have no separate legal existence. The profits are shared by the partners. With respect to losses, the liability of the partners is unlimited. A firm has a limited life span and must be dissolved when any one of the partners dies, retires, claims bankruptcy or goes insane.

Limited Liability Partnership (LLP)

In a Limited Liability Partnership or LLP, the partners of the firm enjoy perpetual existence as well as the advantage of limited liability. Each partner's liability is limited to their agreed contribution to the LLP. The partnership and its partners have a separate legal existence.

Tips

- Learn from others' failures.
- Be certain that this is what you want.
- Search for a problem to solve, rather than look for a problem to attach to your idea.

6.5.2 Leadership & Teamwork: Leadership and Leaders

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

Leaders believe in doing the right things. They also believe in helping others to do the right things. An effective leader is someone who:

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

Leadership Qualities That All Entrepreneurs Need

Building a successful enterprise is only possible if the entrepreneur in charge possesses excellent leadership qualities. Some critical leadership skills that every entrepreneur must have are:

- 1. **Pragmatism**: This means having the ability to highlight all obstacles and challenges, in order to resolve issues and reduce risks.
- 2. **Humility**: This means admi翿Ing to mistakes often and early, and being quick to take responsibility for your actions. Mistakes should be viewed as challenges to overcome, not opportunities to point blame.
- 3. **Flexibility**: It is critical for a good leader to be very flexible and quickly adapt to change. It is equally critical to know when to adapt and when not to.
- 4. **Authenticity**: This means showing both, your strengths and your weaknesses. It means being human and showing others that you are human.
- 5. **Reinvention**: This means refreshing or changing your leadership style when necessary. To do this, it's important to learn where your leadership gaps lie and find out what resources are required to close them.
- 6. **Awareness**: This means taking the time to recognize how others view you. It means understanding how your presence affects those around you.

Benefits of Effective Leadership

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

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

Teamwork and Teams

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

Importance of Teamwork in Entrepreneurial Success

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

- 1. **Unity of purpose:** All the team members should clearly understand and be equally committed to the purpose, vision and goals of the team.
- 2. **Great communication skills:** Team members should have the ability to express their concerns, ask questions and use diagrams, and charts to convey complex information.
- 3. **The ability to collaborate:** Every member should feel entitled to provide regular feedback on new ideas.
- 4. **Initiative:** The team should consist of proactive individuals. The members should have the enthusiasm to come up with new ideas, improve existing ideas, and conduct their own research.
- 5. **Visionary members:** The team should have the ability to anticipate problems and act on these potential problem before they turn into real problems.
- 6. **Great adaptability skills:** The team must believe that change is a positive force. Change should be seen as the chance to improve and try new things.
- 7. **Excellent organizational skills:** The team should have the ability to develop standard work processes, balance responsibilities, properly plan projects, and set in place methods to measure progress and ROI.

– Tips 🏼

- Don't get too attached to your original idea. Allow it to evolve and change.
- Be aware of your weaknesses and build a team that will complement your shortfalls.
- Hiring the right people is not enough. You need to promote or incentivize your most talented people to keep them motivated.
- Earn your team's respect.

6.5.3 Communication Skills: Listening & Speaking: The Importance of Listening Effectively

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

It's very important to note that listening is not the same as hearing. Hearing just refers to sounds that you hear. Listening is a whole lot more than that. To listen, one requires focus. It means not only paying attention to the story, but also focusing on how the story is relayed, the way language and voice is used, and even how the speaker uses their body language. The ability to listen depends on how effectively one can perceive and understand both, verbal and non-verbal cues.

• How to Listen Effectively

To listen effectively you should:

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

How to Listen Effectively

How successfully a message gets conveyed depends entirely on how effectively you are able to get it through. An effective speaker is one who enunciates properly, pronounces words correctly, chooses the right words and speaks at a pace that is easily understandable. Besides this, the words spoken out loud need to match the gestures, tone and body language used.

What you say, and the tone in which you say it, results in numerous perceptions being formed. A person who speaks hesitantly may be perceived as having low self-esteem or lacking in knowledge of the discussed topic. Those with a quiet voice may very well be labelled as shy. And those who speak in commanding tones with high levels of clarity, are usually considered to be extremely confident. This makes speaking a very critical communication skill.

- How to Speak Effectively

To speak effectively you should:

- Incorporate body language in your speech like eye contact, smiling, nodding, gesturing etc.
- Build a draft of your speech before actually making your speech.
- Ensure that all your emotions and feelings are under control.
- Pronounce your words distinctly with the correct pitch and intensity. Your speech should be crystal clear at all times.
- Use a pleasant and natural tone when speaking. Your audience should not feel like you are putting on an accent or being unnatural in any way.
- Use precise and specific words to drive your message home. Ambiguity should be avoided at all costs.
- Ensure that your speech has a logical flow.
- Be brief. Don't add any unnecessary information.
- Make a conscious effort to avoid irritating mannerisms like fidgeting, twitching etc.
- Choose your words carefully and use simple words that the majority of the audience will have no difficulty understanding.
- Use visual aids like slides or a whiteboard.
- Speak slowly so that your audience can easily understand what you're saying. However, be careful not to speak too slowly because this can come across as stiff, unprepared or even condescending.
- Remember to pause at the right moments.

— Tips 🛛

- If you're finding it difficult to focus on what someone is saying, try repeating their words in your head.
- Always maintain eye contact with the person that you are communicating with, when speaking as well as listening. This conveys and also encourages interest in the conversation.

6.5.4 Problem Solving & Negotiation skills: What is a Problem?

As per The Concise Oxford Dictionary (1995), a problem is, "A doubtful or difficult matter requiring a solution"

All problems contain two elements:

1. Goals 2. Obstacles

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

How to Solve Problems

Solving a problem requires a level of rational thinking. Here are some logical steps to follow when faced with an issue:

Step 1: Identify the problem	Step 2: Study the problem in detail
Step 3: List all possible solutions	Step 4: Select the best solution
Step 5: Implement the chosen solution	Step 6: Check that the problem has really been solved

Important Traits for Problem Solving

Highly developed problem solving skills are critical for both, business owners and their employees. The following personality traits play a big role in how effectively problems are solved:

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

How to Assess for Problem Solving Skills

As an entrepreneur, it would be a good idea to assess the level of problem solving skills of potential candidates before hiring them. Some ways to assess this skill are through:

- 1. **Application forms**: Ask for proof of the candidate's problem solving skills in the application form.
- 2. **Psychometric tests**: Give potential candidates logical reasoning and critical thinking tests and see how they fare.
- 3. **Interviews**: Create hypothetical problematic situations or raise ethical questions and see how the candidates respond.
- 4. **Technical questions**: Give candidates examples of real life problems and evaluate their thought process.

- What is Negotiation?

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

Why Negotiate -

Starting a business requires many, many negotiations. Some negotiations are small while others are critical enough to make or break a startup. Negotiation also plays a big role inside the workplace. As an entrepreneur, you need to know not only 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

Tips 🛛

- Know exactly what you want before you work towards getting it
- Give more importance to listening and thinking, than speaking
- Focus on building a relationship rather than winning
- Remember that your people skills will affect the outcome
- Know when to walk away sometimes reaching an agreement may not be possible

6.5.5 Business Opportunities Identification: Entrepreneurs and Opportunities

"The entrepreneur always searches for change, responds to it and exploits it as an opportunity." Peter Drucker

The ability to identify business opportunities is an essential characteristic of an entrepreneur.

- What is an Opportunity?

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

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

Common Questions Faced by Entrepreneurs

A critical question that all entrepreneurs face is how to go about finding the business opportunity that is right for them.

Some common questions that entrepreneurs constantly think about are:

- Should the new enterprise introduce a new product or service based on an unmet need?
- Should the new enterprise select an existing product or service from one market and offer it in another where it may not be available?
- Should the enterprise be based on a tried and tested formula that has worked elsewhere?

It is therefore extremely important that entrepreneurs must learn how to identify new and existing business opportunities and evaluate their chances of success.

When is an Idea an Opportunity?

An idea is an opportunity when:

- It creates or adds value to a customer
- It solves a significant problem, removes a pain point or meets a demand
- Has a robust market and profit margin
- Is a good fit with the founder and management team at the right time and place

Factors to Consider When Looking for Opportunities

Consider the following when looking for business opportunities:

- 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

1. Identify Market Inefficiencies

When looking at a market, consider what inefficiencies are present in the market. Think about ways to correct these inefficiencies.

2. Remove Key Hassles

Rather than create a new product or service, you can innovatively improve a product, service or process.

3. Create Something New

Think about how you can create a new experience for customers, based on existing business models.

4. 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.

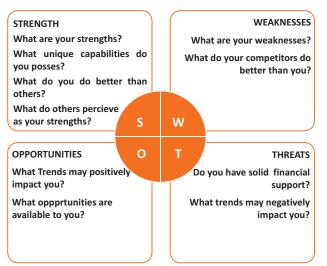
5. Think About Product Differentiation

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

1. SWOT Analysis

An excellent way to identify opportunities inside your business is by creating a SWOT analysis. The acronym SWOT stands for strengths, weaknesses, opportunities, and threats. SWOT analysis framework:



Consider the following when looking for business opportunities:

By looking at yourself and your competitors using the SWOT framework, you can uncover opportunities that you can exploit, as well as manage and eliminate threats that could derail your success.

2. Establishing Your USP

Establish your USP and position yourself as different from your competitors. Identify why customers should buy from you and promote that reason.

- **Opportunity Analysis**

Once you have identified an opportunity, you need to analyze it.

To analyze an opportunity, you must:

- Focus on the idea
- Focus on the market of the idea
- Talk to industry leaders in the same space as the idea
- Talk to players in the same space as the idea

Tips

- Remember, opportunities are situational.
- Look for a proven track record.
- Avoid the latest craze.
- Love your idea.

6.5.6 Entrepreneurship Support Eco - System: What is an Entrepreneur?

An entrepreneur is a person who:

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

Types of Entrepreneurs

There are four main types of entrepreneurs:

- 1. **The Traditional Entrepreneur**: This type of entrepreneur usually has some kind of skill they can be a carpenter, mechanic, cook etc. They have businesses that have been around for numerous years like restaurants, shops and carpenters. Typically, they gain plenty of experience in a particular industry before they begin their own business in a similar field.
- 2. **The Growth Potential Entrepreneur**: The desire of this type of entrepreneur is to start an enterprise that will grow, win many customers and make lots of money. Their ultimate aim is to eventually sell their enterprise for a nice profit. Such entrepreneurs usually have a science or technical background.
- 3. **The Project-Oriented Entrepreneur**: This type of entrepreneur generally has a background in the Arts or psychology. Their enterprises tend to be focus on something that they are very passionate about.
- 4. **The Lifestyle Entrepreneur**: This type of entrepreneur has usually worked as a teacher or a secretary. They are more interested in selling something that people will enjoy, rather than making lots of money.

Characteristics of an Entrepreneur

Successful entrepreneurs have the following characteristics:

- They are highly motivated
- They are creative and persuasive
- They are mentally prepared to handle each and every task
- They have excellent business skills they know how to evaluate their cash flow, sales and revenue
- They are willing to take great risks
- They are very proactive this means they are willing to do the work themselves, rather than wait for someone else to do it
- They have a vision they are able to see the big picture
- They are flexible and open-minded
- They are good at making decisions

- Entrepreneur Success Stories

Dhiru Bhai Ambani

Dhirubhai Ambani began his entrepreneurial career by selling "bhajias" to pilgrims in Mount Girnar on weekends. At 16, he moved to Yemen where he worked as a gas-station attendant, and as a clerk in an oil company. He returned to India with Rs. 50,000 and started a textile trading company. Reliance went on to become the first Indian company to raise money in global markets and the first Indian company to feature in Forbes 500 list.

Dr. Karsanbhai Patel

Karsanbhai Patel made detergent powder in the backyard of his house. He sold his product door-to-door and offered a money back guarantee with every pack that was sold. He charged Rs. 3 per kg when the cheapest detergent at that time was Rs.13 per kg. Dr. Patel eventually started Nirma which became a whole new segment in the Indian domestic detergent market.

The Entrepreneurial Process

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

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

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

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

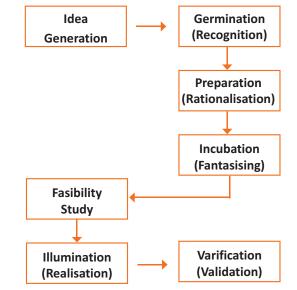
Stage 4: Incubation or Fantasizing. This stage involves creative thinking for the purpose of coming up with more ideas. Less thought is given to the problem areas.

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

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

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

Take a look at the diagram below to get a better idea of this process.



- What is an Entrepreneur?

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

An entrepreneurship ecosystem comprises of the following six domains:

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

These domains indicate whether there is a strong entrepreneurship support ecosystem and what actions should the government put in place to further encourage this ecosystem. The six domains and their various elements have been graphically depicted.

overnment Institutions • Research institutes	inds	кедиаюту патпемотк • е.g. bankruptcy, incentives contract enforcement, pro- е ø Tax henifits not bertv rights and lahour	Financial Capital	Micro-loansAngel investors, fri-	ends and family • Public capital markets • Zero-stage venture • Debt capital	Success Stories	 Visible successes Wealth generation for founders International remutation 	Societal norms	 Tolerance of risk, mistakes, failure Innovation, creativity, experimentation Social status of entrepreneur 	Wealth creation Ambition. drive. hunger			no
LeadershipGovernment• Unequivocal support• Institutions• Social legitimacy• e.g. Investment	 Open door for advocate Financ Entrepreneurship strategy e.g. for urgency, crisis and challenge 	regulatory incentives e ø Tax he	Policy	Market	Entrepreneurship		Capital Culture	Supports		ters Non-Government Institution	 Entrepreneurship Conferences promotion in 		 Business plan Entrepreneur- Tri- contests Endly association
 Early Customers Early adopters for proof-of-concept Evantication in production a 		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 	 Telecommunications Transportation & logistics 	 Energy Zones, incubation centers, clusters 	Support Professions	• Legal	 Accounting Investment bankers

Every entrepreneurship support ecosystem is unique and all the elements of the ecosystem are interdependent. Although every region's entrepreneurship ecosystem can be broadly described by the above features, each ecosystem is the result of the hundred elements interacting in highly complex and particular ways.

Entrepreneurship ecosystems eventually become (largely) self-sustaining. When the six domains are resilient enough, they are mutually beneficial. At this point, government involvement can and should be significantly minimized. Public leaders do not need to invest a lot to sustain the ecosystem. It is imperative that the entrepreneurship ecosystem incentives are formulated to be self-liquidating, hence focusing on sustainability of the environment.

- Government's Role in the Entrepreneurship Ecosystem

Encouraging new ventures is a major focus for policymakers. Governments across the world are recognizing that new businesses flourish in distinctive types of supportive environments. Policymakers should study the scenario and take into account the following points whilst they formulate policies and regulations that enable successful entrepreneurship support ecosystems.

- 1. Policymakers should avoid regulations that discourage new entrants and work towards building efficient methods for business startups. Policies and regulations that favour existing, dominant firms over entrepreneurial ventures, restrict competition and obstruct entry for new companies.
- 2. Instead of developing policies conceptually intended to correct market failures, policymakers should interact with entrepreneurs and understand the challenges faced by them. The feedback should be used to develop policies that incite idea exploration, product development and increased rates of deal flow.
- 3. Entrepreneurial supporters should create a database that enables identifying who the participants in the ecosystem are and how they are connected. These ecosystem maps are useful tools in developing engagement strategies.
- 4. Disruptions are unavoidable in economic and social life. However, it's important to note that economic disruption gives rise to entrepreneurial opportunities. Architects of the entrepreneurship ecosystems (entrepreneurs, mentors, policymakers and consumers,) should anticipate these dips, thus capitalizing on the opportunities they create.

The need for effective strategies to enable local entrepreneurship support ecosystems is a practical one. Better understanding of the actual ecosystems provides a framework within which policy makers can ask relevant questions, envisage more efficient approaches, and assess ensuing outcomes.

Snapshot of the Entrepreneurship Ecosystem in India

Entrepreneurship has earned a newfound respect in India. Many Indians, with exposure to the world of business, who traditionally would have opted for a job, are setting up their own ventures. Many elements of the entrepreneurship ecosystem are beginning to come together. For example, increase in venture capitalists, government schemes and incubators, academia industry linkages, and emerging clusters and support to rural economy. All these initiatives are effective but there is a need to scale up and enrich the ecosystem further in the following ways:

- 1. We need to review our attitude towards failures and accept them as learning experiences.
- 2. We must encourage the educated to become entrepreneurs and provide students in

- 3. Universities, research labs and the government need to play the role of enablers in the entrepreneurship support ecosystem.
- 4. Policymakers need to focus on reducing the obstacles such as corruption, red tape and bureaucracy.
- 5. We need to improve our legal systems and court international venture capital firms and bring them to India.
- 6. We must devise policies and methods to reach the secondary and tertiary towns in India, where people do not have access to the same resources available in the cities.

Today, there is a huge opportunity in this country to introduce innovative solutions that are capable of scaling up, and collaborating within the ecosystem as well as enriching it.

Make in India Campaign

Every entrepreneur has certain needs. Some of their important needs are:

- To easily get loans
- To easily find investors
- To get tax exemptions
- To easily access resources and good infrastructure
- To enjoy a procedure that is free of hassles and is quick
- To be able to easily partner with other firms

The Make in India campaign, launched by Prime Minister Modi aims to satisfy all these needs of young, aspiring entrepreneurs. Its objective is to:

- Make investment easy
- Support new ideas
- Enhance skill development
- Safeguard the ideas of entrepreneurs
- Create state-of-the-art facilities for manufacturing goods

Tips |

- Research the existing market, network with other entrepreneurs, venture capitalists, angel investors, and thoroughly review the policies in place to enable your entrepreneurship.
- Failure is a stepping stone and not the end of the road. Review yours and your peers' errors and correct them in your future venture.
- Be proactive in your ecosystem. Identify the key features of your ecosystem and enrich them to ensure self-sustainability of your entrepreneurship support ecosystem.

6.5.7 Risk Appetite & Resilience: Entrepreneurship and Risk

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

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

What is Risk Appetite?

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

The levels of risk appetite can be broadly categorized as "low", "medium" and "high." The company's entrepreneur(s) have to evaluate all potential alternatives and select the option most likely to succeed. Companies have varying levels of risk appetites for different objectives. The levels depend on:

- The type of industry
- Market pressures
- Company objectives

For example, a startup with a revolutionary concept will have a very high risk appetite. The startup can afford short term failures before it achieves longer term success. This type of appetite will not remain constant and will be adjusted to account for the present circumstances of the company.

Risk Appetite Statement

Companies have to define and articulate their risk appetite in sync with decisions made about their objectives and opportunities. The point of having a risk appetite statement is to have a framework that clearly states the acceptance and management of risk in business. It sets risk taking limits within the company. The risk appetite statement should convey the following:

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

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- 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

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.

6.5.8 Success & Failures: Understanding Successes and Failures in Entrepreneurship

Shyam is a famous entrepreneur, known for his success story. But what most people don't know, is that Shyam failed numerous times before his enterprise became a success. Read his interview to get an idea of what entrepreneurship is really about, straight from an entrepreneur who has both, failed and succeeded.

Interviewer: Shyam, I have heard that entrepreneurs are great risk-takers who are never afraid of failing. Is this true?

Shyam: Ha ha, no of course it's not true! Most people believe that entrepreneurs need to be fearlessly enthusiastic. But the truth is, fear is a very normal and valid human reaction, especially when you are planning to start your own business! In fact, my biggest fear was the fear of failing. The reality is, entrepreneurs fail as much as they succeed. The trick is to not allow the fear of failing to stop you from going ahead with your plans. Remember, failures are lessons for future success!

Interviewer: What, according to you, is the reason that entrepreneurs fail?

Shyam: Well, there is no one single reason why entrepreneurs fail. An entrepreneur can fail due to numerous reasons. You could fail because you have allowed your fear of failure to defeat you. You could fail because you are unwilling to delegate (distribute) work. As the saying goes, "You can do anything, but not everything!" You could fail because you gave up too easily – maybe you were not persistent enough. You could fail because you were focusing your energy on small, insignificant tasks and ignoring the tasks that were most important. Other reasons for failing are partnering with the wrong people, not being able to sell your product to the right customers at the right time at the right price... and many more reasons!

Interviewer: As an entrepreneur, how do you feel failure should be looked at?

Shyam: I believe we should all look at failure as an asset, rather than as something negative. The way I see it, if you have an idea, you should try to make it work, even if there is a chance that you will fail. That's because not trying is failure right there, anyway! And failure is not the worst thing that can happen. I think having regrets because of not trying, and wondering 'what if' is far worse than trying and actually failing.

Interviewer: How did you feel when you failed for the first time?

Shyam: I was completely heartbroken! It was a very painful experience. But the good news is, you do recover from the failure. And with every subsequent failure, the recovery process gets a lot easier. That's because you start to see each failure more as a lesson that will eventually help you succeed, rather than as an obstacle that you cannot overcome. You will start to realize that failure has many benefits.

Interviewer: Can you tell us about some of the benefits of failing?

Shyam: One of the benefits that I have experienced personally from failing is that the failure made me see things in a new light. It gave me answers that I didn't have before. Failure can make you a lot stronger. It also helps keep your ego in control.

Interviewer: What advice would you give entrepreneurs who are about to start their own enterprises?

Shyam: I would tell them to do their research and ensure that their product is something that is actually wanted by customers. I'd tell them to pick their partners and employees very wisely and cautiously. I'd tell them that it's very important to be aggressive – push and market your product as aggressively as possible. I would warn them that starting an enterprise is very

expensive and that they should be prepared for a situation where they run out of money.

I would tell them to create long term goals and put a plan in action to achieve that goal. I would tell them to build a product that is truly unique. Be very careful and ensure that you are not copying another startup. Lastly, I'd tell them that it's very important that they find the right investors.

Interviewer: That's some really helpful advice, Shyam! I'm sure this will help all entrepreneurs to be more prepared before they begin their journey! Thank you for all your insight!

– Tips 🛛

- Remember that nothing is impossible.
- Identify your mission and your purpose before you start.
- Plan your next steps don't make decisions hastily.

UNIT 6.6: Preparing to be an Entrepreneur

- Unit Objectives 🔘

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

- 1. Discuss how market research is carried out
- 2. Describe the 4 Ps of marketing
- 3. Discuss the importance of idea generation
- 4. Recall basic business terminology
- 5. Discuss the need for CRM
- 6. Discuss the benefits of CRM
- 7. Discuss the need for networking
- 8. Discuss the benefits of networking
- 9. Understand the importance of setting goals
- 10. Differentiate between short-term, medium-term and long-term goals
- 11. Discuss how to write a business plan
- 12. Explain the financial planning process
- 13. Discuss ways to manage your risk
- 14. Describe the procedure and formalities for applying for bank finance
- 15. Discuss how to manage your own enterprise
- 16. List important questions that every entrepreneur should ask before starting an enterprise

6.6.1 Market Study / The 4 Ps of Marketing / Importance of an IDEA: Understanding Market Research

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

- Past, present and prospective customers
- Customer characteristics and spending habits
- The location and needs of the target market
- The overall industry
- Relevant competitors

Market research involves two types of data:

- Primary information. This is research collected by yourself or by someone hired by you.
- Secondary information. This is research that already exists and is out there for you to find and use.

Primary research

Primary research can be of two types:

- Exploratory: This is open-ended and usually involves detailed, unstructured interviews.
- Specific: This is precise and involves structured, formal interviews. Conducting specific research is the more expensive than conducting exploratory research.

Secondary research

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

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

The 4 Ps of Marketing

The 4 Ps of marketing are Product, Price, Promotion and Place. Let's look at each of these 4 Ps in detail.

Product -

A product can be:

A tangible good
 An intangible service

Whatever your product is, it is critical that you have a clear understanding of what you are offering, and what its unique characteristics are, before you begin with the marketing process.

Some questions to ask yourself are:

- What does the customer want from the product/service?
- What needs does it satisfy?
- Are there any more features that can be added?
- Does it have any expensive and unnecessary features?
- How will customers use it?
- What should it be called?
- How is it different from similar products?
- How much will it cost to produce?
- Can it be sold at a profit?

- Price

Once all the elements of Product have been established, the Price factor needs to be considered. The Price of a Product will depend on several factors such as profit margins, supply, demand and the marketing strategy.

Some questions to ask yourself are:

- What is the value of the product/service to customers?
- Do local products/services have established price points?
- Is the customer price sensitive?
- Should discounts be offered?
- How is your price compared to that of your competitors?

Promotion

Once you are certain about your Product and your Price, the next step is to look at ways to promote it. Some key elements of promotion are advertising, public relations, social media marketing, email marketing, search engine marketing, video marketing and more.

Some questions to ask yourself are:

- Where should you promote your product or service?
- What is the best medium to use to reach your target audience?
- When would be the best time to promote your product?
- How are your competitors promoting their products?

Place -

According to most marketers, the basis of marketing is about offering the right product, at the right price, at the right place, at the right time. For this reason, selecting the best possible location is critical for converting prospective clients into actual clients.

Some questions to ask yourself are:

- Will your product or service be looked for in a physical store, online or both?
- What should you do to access the most appropriate distribution channels?
- Will you require a sales force?
- Where are your competitors offering their products or services?
- Should you follow in your competitors' footsteps?
- Should you do something different from your competitors?

Importance of an IDEA -

Ideas are the foundation of progress. An idea can be small or ground-breaking, easy to accomplish or extremely complicated to implement. Whatever the case, the fact that it is an idea gives it merit. Without ideas, nothing is possible. Most people are afraid to speak out their ideas, out for fear of being ridiculed. However, if are an entrepreneur and want to remain competitive and innovative, you need to bring your ideas out into the light.

Some ways to do this are by:

- Establishing a culture of brainstorming where you invite all interested parties to contribute
- Discussing ideas out loud so that people can add their ideas, views, opinions to them
- Being open minded and not limiting your ideas, even if the idea who have seems ridiculous
- Not discarding ideas that you don't work on immediately, but instead making a note of them and shelving them so they can be revisited at a later date

- Tips 🕴

- Keep in mind that good ideas do not always have to be unique.
- Remember that timing plays a huge role in determining the success of your idea.
- Situations and circumstances will always change, so be flexible and adapt your idea accordingly.

6.6.2 Business Entity Concepts: Basic Business Terminology

If your aim is to start and run a business, it is crucial that you have a good understanding of basic business terms. Every entrepreneur should be well versed in the following terms:

- Accounting: A systematic method of recording and reporting financial transactions.
- Accounts payable: Money owed by a company to its creditors.
- Accounts Receivable: The amount a company is owed by its clients.
- Assets: The value of everything a company owns and uses to conduct its business.
- Balance Sheet: A snapshot of a company's assets, liabilities and owner's equity at a given moment.
- Bottom Line: The total amount a business has earned or lost at the end of a month.
- Business: An organization that operates with the aim of making a profit.
- Business to Business (B2B): A business that sells goods or services to another business.
- Business to Consumer (B2C): A business that sells goods or services directly to the end user.
- Capital: The money a business has in its accounts, assets and investments. The two main types of capital are debt and equity.
- Cash Flow: The overall movement of funds through a business each month, including income and expenses.
- Cash Flow Statement: A statement showing the money that entered and exited a business during a specific period of time.
- Contract: A formal agreement to do work for pay.
- Depreciation: The degrading value of an asset over time.
- Expense: The costs that a business incurs through its operations.
- Finance: The management and allocation of money and other assets.
- Financial Report: A comprehensive account of a business' transactions and expenses.
- Fixed Cost: A one-time expense.
- Income Statement (Profit and Loss Statement): Shows the profitability of a business during a period of time.
- Liabilities: The value of what a business owes to someone else.
- Marketing: The process of promoting, selling and distributing a product or service.
- Net Income/Profit: Revenues minus expenses.
- Net Worth: The total value of a business.
- Payback Period: The amount of time it takes to recover the initial investment of a business.
- Profit Margin: The ratio of profit, divided by revenue, displayed as a percentage.
- Return on Investment (ROI): The amount of money a business gets as return from an investment.

- Revenue: The total amount of income before expenses are subtracted.
- Sales Prospect: A potential customer.
- Supplier: A provider of supplies to a business.
- Target Market: A specific group of customers at which a company's products and services are aimed.
- Valuation: An estimate of the overall worth of the business.
- Variable Cost: Expenses that change in proportion to the activity of a business.
- Working Capital: Calculated as current assets minus current liabilities.

– 6.6.3 CRM & Networking: What is CRM?

CRM stands for Customer Relationship Management. Originally the expression Customer Relationship Management meant managing one's relationship with customers. However, today it refers to IT systems and software designed to help companies manage their relationships.

The Need for CRM -

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

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

Benefits of CRM

CRM has a number of important benefits:

- It helps improve relations with existing customers which can lead to:
 - Increased sales
 - Identification of customer needs
 - Cross-selling of products
- It results in better marketing of one's products or services
- It enhances customer satisfaction and retention
- It improves profitability by identifying and focusing on the most profitable customers

· 6.3.4 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.

- 6.3.5 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.

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

Benefits of Networking

Networking offers numerous benefits for entrepreneurs. Some of the major benefits are:

- Getting high quality leads
- Increased business opportunities
- Good source of relevant connections
- Advice from like-minded entrepreneurs
- Gaining visibility and raising your profile
- Meeting positive and enthusiastic people
- Increased self-confidence
- Satisfaction from helping others
- Building strong and lasting friendships

Tips

- Use social media interactions to identify needs and gather feedback.
- When networking, ask open-ended questions rather than yes/no type questions.

- 6.6.4 Business Plan: Why Set Goals

Setting goals is important because it gives you long-term vision and short-term motivation. Goals can be short term, medium term and long term.

Short-Term Goals

• These are specific goals for the immediate future.

Example: Repairing a machine that has failed.

Medium-Term Goals

- These goals are built on your short term goals.
- They do not need to be as specific as your short term goals.

Example: Arranging for a service contract to ensure that your machines don't fail again.

Long-Term Goals

These goals require time and planning.

They usually take a year or more to achieve.

Example: Planning your expenses so you can buy new machinery

- Why Create a Business Plan

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

A business plan typically comprises of eight elements.

Elements of a Business Plan

Executive Summary

The executive summary follows the title page. The summary should clearly state your desires as the business owner in a short and businesslike way. It is an overview of your business and your plans. Ideally this should not be more than 1-2 pages.

Your Executive Summary should include:

• The Mission Statement: Explain what your business is all about.

Example: Nike's Mission Statement

Nike's mission statement is "To bring inspiration and innovation to every athlete in the world."

- Company Information: Provide information like when your business was formed, the names and roles of the founders, the number of employees, your business location(s) etc.
- Growth Highlights: Mention examples of company growth. Use graphs and charts where possible.
- Your Products/Services: Describe the products or services provided.
- Financial Information: Provide details on current bank and investors.
- Summarize future plans: Describe where you see your business in the future.

Business Description

The second section of your business plan needs to provide a detailed review of the different elements of your business. This will help potential investors to correctly understand your business goal and the uniqueness of your offering.

Your Business Description should include:

- A description of the nature of your business
- The market needs that you are aiming to satisfy
- The ways in which your products and services meet these needs
- The specific consumers and organizations that you intend to serve
- Your specific competitive advantages

Market Analysis

The market analysis section usually follows the business description. The aim of this section is to showcase your industry and market knowledge. This is also the section where you should lay down your research findings and conclusions.

Your Market Analysis should include:

- Your industry description and outlook
- Information on your target market
- The needs and demographics of your target audience
- The size of your target market
- The amount of market share you want to capture
- Your pricing structure
- Your competitive analysis
- Any regulatory requirements

Organization & Management

This section should come immediately after the Market Analysis.

Your Organization & Management section should include:

- Your company's organizational structure
- Details of your company's ownership
- Details of your management team
- Qualifications of your board of directors
- Detailed descriptions of each division/department and its function
- The salary and benefits package that you offer your people
- The incentives that you offer

Service or Product Line

The next section is the service or product line section. This is where you describe your service or product, and stress on their benefits to potential and current customers. Explain in detail why your product of choice will fulfill the needs of your target audience.

Your Service or Product Line section should include:

- A description of your product/service
- A description of your product or service's life cycle
- A list of any copyright or patent filings
- A description of any R&D activities that you are involved in or planning

Marketing & Sales

Once the Service or Product Line section of your plan has been completed, you should start on the description of the marketing and sales management strategy for your business. Your Marketing section should include the following strategies:

- **Market penetration strategy**: This strategy focuses on selling your existing products or services in existing markets, in order to increase your market share.
- **Growth strategy**: This strategy focuses on increasing the amount of market share, even if it reduces earnings in the short-term.
- **Channels of distribution strategy**: These can be wholesalers, retailers, 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 services will you sell it offline or online, how many units do you intend to sell, what price do you plan to sell each unit at, etc.

Funding Request

This section is specifically for those who require funding for their venture.

The Funding Request section should include the following information:

- How much funding you currently require.
- How much funding you will require over the next five years. This will depend on your long-term goals.
- The type of funding you want and how you plan to use it. Do you want funding that can be used only for a specific purpose, or funding that can be used for any kind of requirement?
- Strategic plans for the future. This will involve detailing out your long-term plans what these plans are and how much money you will require to put these plans in motions.
- Historical and prospective financial information. This can be done by creating and maintaining all your financial records, right from the moment your enterprise started, to the present day. Documents required for this are your balance sheet which contains details of your company's assets and liabilities, your income statement which lists your company's revenues, expenses and net income for the year, your tax returns (usually for the last three years) and your cash flow budget which lists the cash that came in, the cash that went out and states whether you had a cash deficit (negative balance) or surplus (positive balance) at the end of each month.

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.

– 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.

6.6.5 Procedure and Formalities for Bank Finance: The Need for Bank Finance

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

What Information Should Entrepreneurs Offer Banks for Funding?

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

General Credentials

This is where you, as an entrepreneur, provide the bank with background information on yourself. Such information includes:

- Letter(s) of Introduction: This letter should be written by a respected business person who knows you well enough to introduce you. The aim of this letter is set across your achievements and vouch for your character and integrity.
- Your Profile: This is basically your resume. You need to give the bank a good idea of your educational achievements, professional training, qualifications, employment record and achievements.
- Business Brochure: A business brochure typically provides information on company products, clients, how long the business has been running for etc.
- Bank and Other References: If you have an account with another bank, providing those bank references is a good idea.
- Proof of Company Ownership or Registration: In some cases, you may need to provide the bank with proof of company ownership and registration. A list of assets and liabilities may also be required.

Financial Situation

Banks will expect current financial information on your enterprise. The standard financial reports you should be prepared with are:

- Balance Sheet
- Cash-Flow Statement
- Profit-and-Loss Account
- Statement
- Business Plan

- Projected Sales and Revenues
- Feasibility Study

Guarantees or Collaterals

Usually banks will refuse to grant you a loan without security. You can offer assets which the bank can seize and sell off if you do not repay the loan. Fixed assets like machinery, equipment, vehicles etc. are also considered to be security for loans.

The Lending Criteria of Banks

Your request for funding will have a higher chance of success if you can satisfy the following lending criteria:

- Good cash flow
- Adequate shareholders' funds
- Adequate security
- Experience in business
- Good reputation

The Procedure

To apply for funding the following procedure will need to be followed.

- 1. Submit your application form and all other required documents to the bank.
- 2. The bank will carefully assess your credit worthiness and assign ratings by analyzing your business information with respect to parameters like management, financial, operational and industry information as well as past loan performance.
- 3. The bank will make a decision as to whether or not you should be given funding.

Tips 🛛

- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

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6.6.6 Enterprise Management - An Overview: How to Manage Your Enterprise

To manage your enterprise effectively you need to look at many different aspects, right from managing the day-to-day activities to figuring out how to handle a large scale event. Let's take a look at some simple steps to manage your company effectively.

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

Let's take the example of Ramu, an entrepreneur who has recently started his own enterprise. Ramu has good leadership skills – he is honest, communicates well, knows how to delegate work etc. These leadership skills definitely help Ramu in the management of his enterprise. However, sometimes Ramu comes across situations that he is unsure how to handle. What should Ramu do in this case? One solution is for him to find a more experienced manager who is willing to mentor him. Another solution is for Ramu to use his networking skills so that he can connect with managers from other organizations, who can give him advice on how to handle such situations.

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

Even the most skilled manager in the world will not be able to manage every single task that an enterprise will demand of him. A smart manager needs to realize that the key to managing his enterprise lies in his dividing all his work between those around him. This is known as delegation. However, delegating is not enough. A manager must delegate effectively if he wants to see results. This is important because delegating, when done incorrectly, can result in you creating even more work for yourself. To delegate effectively, you can start by making two lists. One list should contain the things that you know you need to handle yourself. The second list should contain the things that you are confident can be given to others to manage and handle. Besides incorrect delegation, another issue that may arise is over-delegation. This means giving away too many of your tasks to others. The problem with this is, the more tasks you delegate, the more time you will spend tracking and monitoring the work progress of those you have handed the tasks to. This will leave you with very little time to finish your own work.

Step 3: Hire the right people for the job.

Hiring the right people goes a long way towards effectively managing your enterprise. To hire the best people suited for the job, you need to be very careful with your interview process. You should ask potential candidates the right questions and evaluate their answers carefully. Carrying out background checks is always a good practice. Running a credit check is also a good idea, especially if the people you are planning to hire will be handling your money. Create a detailed job description for each role that you want filled and ensure that all candidates have a clear and correct understanding of the job description. You should also have an employee manual in place, where you

put down every expectation that you have from your employees. All these actions will help ensure that the right people are approached for running your enterprise.

Step 4: Motivate your employees and train them well.

Your enterprise can only be managed effectively if your employees are motivated to work hard for your enterprise. Part of being motivated involves your employees believing in the vision and mission of your enterprise and genuinely wanting to make efforts towards pursuing the same. You can motivate your employees with recognition, bonuses and rewards for achievements. You can also motivate them by telling them about how their efforts have led to the company's success. This will help them feel pride and give them a sense of responsibility that will increase their motivation. Besides motivating your people, your employees should be constantly trained in new practices and technologies. Remember, training is not a one-time effort. It is a consistent effort that needs to be carried out regularly.

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

Your employees need to be well-versed in the art of customer management. This means they should be able to understand what their customers want, and also know how to satisfy their needs. For them to truly understand this, they need to see how you deal effectively with customers. This is called leading by example. Show them how you sincerely listen to your clients and the efforts that you put into understand their requirements. Let them listen to the type of questions that you ask your clients so they understand which questions are appropriate.

Step 6: Market your enterprise effectively.

Use all your skills and the skills of your employees to market your enterprise in an effective manner. You can also hire a marketing agency if you feel you need help in this area.

Now that you know what is required to run your enterprise effectively, put these steps into play, and see how much easier managing your enterprise becomes!

- Tips 🔍

- Get advice on funding options from experienced bankers.
- Be cautious and avoid borrowing more than you need, for longer than you need, at an interest rate that is higher than you are comfortable with.

6.6.7. 20 Questions to Ask Yourself Before Considering Entrepreneurship

- 1. Why am I starting a business?
- 2. What problem am I solving?
- 3. Have others attempted to solve this problem before? Did they succeed or fail?
- 4. Do I have a mentor¹ or industry expert that I can call on?
- 5. Who is my ideal customer²?
- 6. Who are my competitors³?
- 7. What makes my business idea different from other business ideas?
- 8. What are the key features of my product or service?
- 9. Have I done a SWOT⁴ analysis?
- 10. What is the size of the market that will buy my product or service?
- 11. What would it take to build a minimum viable product⁵ to test the market?
- 12. How much money do I need to get started?
- 13. Will I need to get a loan?
- 14. How soon will my products or services be available?
- 15. When will I break even⁶ or make a profit?
- 16. How will those who invest in my idea make a profit?
- 17. How should I set up the legal structure⁷ of my business?
- 18. What taxes⁸ will I need to pay?
- 19. What kind of insurance⁹ will I need?
- 20. Have I reached out to potential customers for feedback?

- Tips 🛛

- It is very important to validate your business ideas before you invest significant time, money and resources into it.
- The more questions you ask yourself, the more prepared you will be to handle 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.

– Notes 🔡
Notes



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