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Partcipant Handbook

Sector
Agriculture and Allied

Sub-Sector
Fisheries

Occupation
Aquaculture

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Aquaculture Worker

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Shri Narendra Modi
Prime Minister of India

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AGRICULTURE SECTOR SKILL COUNCIL

for

SKILLING CONTENT : PARTICIPANT HANDBOOK

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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

An Aquaculture Worker is responsible for carrying out operations at an aqua-farm under the guidance of an aqua farm biologist. An Aquaculture Worker is responsible for providing assistance in maintenance of stock tanks, ensuring proper water intake, water treatment, pond preparation, farming of aquatic organisms, sampling, harvest and effluent treatment. The individual should be laborious and should have inclination to new learnings. Requires clarity and should be result oriented. The individual should also be able to demonstrate skills of using various tools and keep records as required. 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 Aquaculture Worker like assist in performing pond preparation activities, culture of aquatic organisms, and ensures Health & Safety at the Green House etc. An Aquaculture Worker must possess physical strength, ability to understand instructions, good hand strength and stamina to work for long hours.

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

Symbols Used

Key Learning Outcomes

Steps

Time

Tips

Notes

Unit Objectives

Exercise

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1. Introduction

Unit 1.1 - Freshwater aquaculture sector in India

Unit 1.2 - Fish farming

Unit 1.3 - Job role of an Aquaculture worker

Key Learning Outcomes

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

- Discuss the freshwater aquaculture sector in India, and its sub-sectors
- Define your Roles and responsibilities
- Demonstrate how aquaculture operations can be performed
- Identify equipment required
- Identify ways of fish farming
- Demonstrate skills required for the job (behavioral, professional, technical and communication)
- Maintain a safe, hygienic and secure working environment

UNIT 1.1: Freshwater Aquaculture Sector In India

Unit Objectives

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

- Know the freshwater pond resources of the country
- Know importance of aquaculture in supplying fish protein
- Know organizational structure of a fish farm
- Know employment opportunity available in the aquaculture sector

1.1.1 The freshwater sector

Fish production in India comes from three sectors, i.e., the sea or marine water, brackish water and freshwater sectors. Based on the methods of fish being produced the sectors are divided into two, i.e. capture fisheries and culture fisheries. The following table gives a schematic representation of the fish production sectors in the country.

Sectors		Capture	Culture
Inland Sector	Freshwater	Reservoir, river, canal, beels and other natural waters	i. ponds, tanks, small and medium reservoirs ii. Cage culture in river, canal, reservoir
	Brackishwater	Estuary, lake and lagoon	i. Culture in coastal area ii. Cage/pen culture in estuary
Marine Sector		Coastal and deep sea fishing	i. Cage culture of fish ii. Raft culture of sea weeds, mussels and oyster

Table 1.1.1 Freshwater sector - Aquaculture

Freshwater aquaculture resources in the country

Resources	Potential area	Scope
Ponds & Tanks	2.41 million ha	Seed raring, Grow - out culture
Lakes & Reservoirs	3.15 m ha	Small: Grow - out culture Medium: Seed rearing in cage, Grow - out Large: Fingerling/stunted yearling in cage, cage grow -out culture, Culture based capture
Beels/derelict waters	1.07 m ha	Seed rearing, short term culture
Rivers		Cage aquaculture
Irrigation Canals	0.12 m km	Cage aquaculture

Table 1.1.1 Freshwater Aquaculture resources in the country

1.1.2 Importance of Freshwater Sector

- Fish is the cheapest source of animal protein.
- Demand for fish is increasing in the country.
- India requires 16 million matric tonnes of fish every year by 2025 against the present production of 9.58 million matric tonnes leaving a huge gap between future demand and supply.
- The present total fish production in country is 9.58 million matric tonnes leaving a huge gap between future demand and supply.
- Marine capture fish production has been stagnant over last decades while brackish water aquaculture mainly of prawn farming is mostly export oriented.
- Therefore, freshwater is the only sector to bridge the gap of fish demand and supply in the future.

1.1.3 Present Status of Freshwater Sector in the Country

India is one among the pioneer countries of the world to practice fish culture in ponds and tanks. Indian water has more than 900 freshwater species of fish of which many have culture potential. Approximately two dozen species are at present cultured in the freshwater ponds across the country. The carps form the major cultured group in the Indian ponds contributing approximately 75% of the total aquaculture production of the country. The group mainly consist of the three Indian major carps catla, rohu and mrigal and the three exotic carps silver carp, grass carp and common carp. The group also includes few minor carps which are popula on regional basis. Few of those include fringed lipped carp, kuri, kalbasu, bata, reba, cauvery carp, silver barb, olive barb and few others. Catfish id the second most cultured fish in the freshwater ponds. The group includes stripped catfish, magur, pabda, etc. The other major groups cultured in the freshwater sector are freshwater prawn, anabus, murrel, etc. The average fish production in the country is 2.9 tonnes/ha. With the present total fish production at 9.58 million matric tonnes, India is the second largest fish producer from the aquaculture sector. Of the 2.414 million hactor of potential aquaculture area available in the country, only 65-70% is being used for fish production at present which indicates further scope of expansion of the aquaculture area. Grow-out fish production technologies have been developed to utilize almost all type of water bodies for culture of appropriate fish species. Backed with seven decades of research and strong biodiversity of fish fauna, aquaculture diversification is on the anvil in the country. These also support strong backup to increase the unit area productivity in the ponds (vertical increase in productivity).

1.1.4 Employment Opportunities in Aquaculture Worker Sector

Freshwater fish farming is an upcoming enterprise in the agriculture and allied sector. It is considered one among the most profit making avenues of farming. With a consistent annual growth of above 6% during last few years, the sector is all set to grow further with expansion of the culture area as well as intensification of the farming intensity. Since availability of skilled personnel is the precursor for growth of any sector, more and more trained personnel would be required in the aquaculture sector to cater the man power demand of the expanding culture area as well as the intensified farming operation.

Tips

Do you need a university degree in zoology or ichthyology to become a successful fish farmer?

No, a good practical ability is more important, although a basic understanding of and 'feel' for animal husbandry is essential. If you have no 'feel' for animals, do not become a fish farmer.

Who is an aquaculture worker?

Think about this. Who do you think is responsible for attending the daily routine works of a fish farm such as feeding the fish, exchanging water, applying lime, manures and fertilizers, cleaning the pond area including the dyke, applying chemicals and therapeutics, sampling fish to check the growth? Well, it is the aquaculture worker! It is his/her duty to create a growing environment for the fish and maintain the asthetic condition of the farm.

Exercise

1. Which are the top three states in aquaculture production and why?

Answer:

Notes

UNIT 1.2: Fish Farming

Unit Objectives

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

- Basic information on the freshwater fish farming operations in the freshwater fish culture.
- Drawing water and treat it for use in the fish farm.
- Use lime to correct pH of soil and water.
- Applying organic manure and inorganic fertilizers.
- Identify aquatic weed and apply appropriate methods to eradicate.
- Apply pesticide to eradicate predatory and weed fishes.
- Control aquatic insects in pond prior to seed release.
- Manage nursery, rearing and grow-out ponds prior to seed stocking.

1.2.1 Fish Farming

Farming of fish in the freshwater sector refers to raise the whole life stages of the fish in confinement which includes seed rearing and the grow-out farming. Seed are being produced in the hatchery and further transferred to the seed rearing facility. The technique of seed rearing varies from species to species. For example, carp seeds are generally raised in outdoor concrete or earthen rearing tanks in two phases, i.e. nursery phase to rear the spawn to fry stage (25 mm) and rearing phase to raise the fry to fingerling size (60-100 mm). Seed of catfishes and freshwater prawn are initially reared in indoor tanks followed by outdoor rearing mostly in the tank system. The grow-out farming is carried out to raise the fish seed to marketable size. Both seed rearing and the grow-out culture of fish are carried out with certain principle of farming.

1.2.2 Equipment and Material Needed

Rubber gloves

Protective footwear

Soft-bristled Handbrush

Aquaculture suit

Sickle, Hand held grass cutter

Spades

Water pumps

Weighing balance

Lawn mower

Small boat for feeding

Aerator

Aluminium bucket/mug

Hapa

Drag net

Fig 1.2.2 Types of equipment and material used in fish farming

Water Pump

Weed Raker

Weed Cutter

Fig 1.2.2 Tools and Equipments

1.2.3 Organizational set up of a Fish Farm

A farm is the basic infrastructure required for fish farming, be it for raising seed or the grow-out fish or a combination of both. The farm should have a basic organizational structure to run the fish culture activity smoothly on a day to day basis. Following figure represents a schematic diagram of the organizational structure of a fish farm. The number of personnel in each level depends on the farm area and the dimension of farming operation.

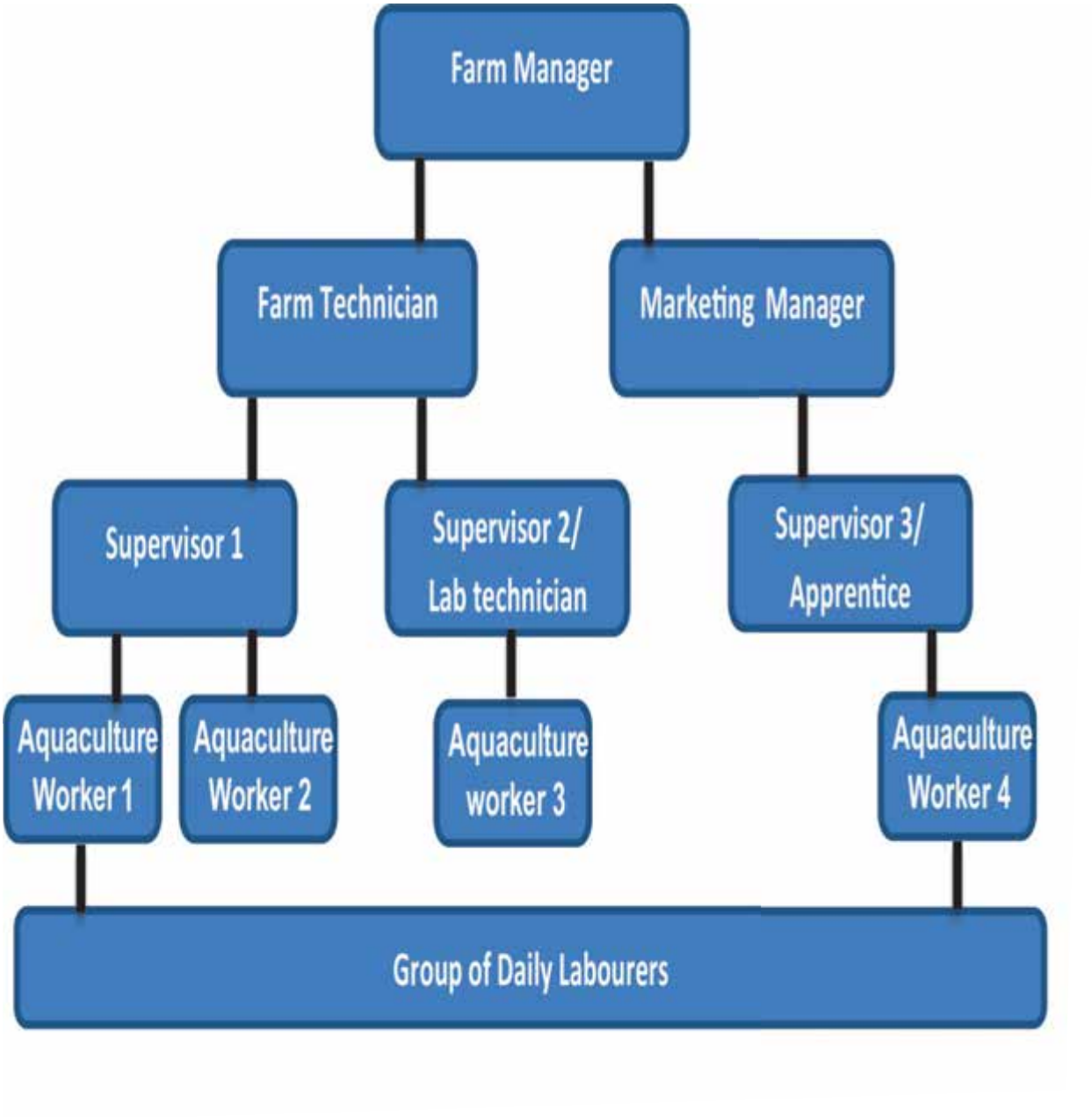

Fig 1.2.2 Hierarchy system

Tips

Does one need lots of water for fish farming?

No, the Israelis (for example) farm fish in one of the driest parts of the world. The quantity of water available determines the methods used, whereby intensive water recirculating methods tend to predominate where water is scarce, and extensive ones where water is abundant.

Exercise

1. Which are the top three states in aquaculture production and why?

Answer:_____

Notes

UNIT 1.3: Job role of an aquaculture worker

Unit Objectives

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

- Understand his roles and responsibilities on farm

1.3.1 Job role of an aquaculture worker

- An Aquaculture Worker is responsible for providing assistance in carrying out different activities of the fish farm including water intake, water treatment, pond preparation, farming operation, sampling, harvest and effluent treatment etc.
- He must possess physical strength, ability to understand instructions, ability to lead the team of workers to accomplish the assigned work etc.
- He should also be able to observe the aquaculture operation keenly.
- He should identify the problem if any that occurs during the culture operation and report it immediately to the higher official in the farm.
- He should be able to carry out suggested correction measures effectively.

Tips

What expertise do I need to undertake my own fish farming venture?

A spirit of hard work coupled with preparedness to undertake more than just fish farming itself. If you are going to call a mechanic every time your vehicle needs an oil change, or an electrician when you need to wire up a pump, rather go and become a desk-bound civil servant, as fish farming demands that one be a master at many trades. Be prepared to try to learn how plumbing works, dams are built, fish breed, and don't depend on others to fix the daily problems associated with the lifestyle of a fish farmer. Like agriculture, it is generally an outdoor, healthy and exciting lifestyle that can lead to some frustration at times, but much work satisfaction and rewards as well. You will never be bored!

Notes

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2. Assist in pond preparation activities

Unit 2.1 - Drawing and storage of water
Unit 2.2 - Water treatments
Unit 2.3 - Apply organic manure
Unit 2.4 - Eradicate aquatic weeds
Unit 2.5 - Eradicate predatory and weed fish
Unit 2.6 - Pond fertilization
Unit 2.7 - Aquatic insects control and treatment
Unit 2.8 - Stocking

AGR/N4919

Key Learning Outcomes

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

- Undertake storage and water treatment
- Apply organic manure
- Understand the methods of aquatic weed eradication
- Understand the methods of eradication of predatory and weed fishes
- Apply pond fertilizers
- Undertake aquatic insect control and treatment
- Stock the seed

UNIT 2.1 Drawing and storage of water

Unit Objectives

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

- Understand the importance of water storage
- Undertake water storage

2.1.1 Drawing and storage of water

- Supply of adequate quantity of water to the farm is an important culture operation.
- The water should be of good quality preferably from a natural source like river or reservoir.
- Water intake is important especially in ponds those receive water from agriculture run off as it may contain harmful pesticides that affects the cultured organism.
- If the farm is located downstream of a farming area, water intake should never be done from the canal during drainage operation of upstream farm as it may carry parasites and other pathogens.
- Irrigation canals are considered as the most assured source of water supply in the areas where facilities are available.
- In ponds receiving water from runoff during rainfall, water intake should be appropriately timed as it largely depends on the amount and time of rainfall.
- The best water intake method is to store the water in a reservoir followed by water treatment to ensure suitable quality before taking into the cultured pond.

Tips

Can a farmer use his dam or water-storage tanks for aquaculture?

Generally, no, in that these tend to be either unmanageable because they cannot be drained and the stock managed, or too small in that the feed needed to grow a worthwhile number of fish would soon pollute the small water volume of the storage tanks without filtration. However, dams can be well used for cage-type aquaculture

Exercise

1. Can we use overhead tank for storage of water for aquaculture, explain why?

Answer:

Notes

UNIT 2.2: Water Treatment

Unit Objectives

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

- Apply chlorine for water treatment
- Apply lime for correcting pH
- Understand about turbidity and pH

2.2.1 Water Treatment

Water to be used in the farm should comply to the standard requirement of fish farming. Generally the runoff water received in the reservoir has pH in the acidic range which is not suitable for the fish, It may contain dissolved and suspended solids that need to be reduced. Besides, such water carries the risk of contamination with pathogens. Thus, the water needs to be treated in the reservoir itself prior to intake into the fish pond.

2.2.2 How to control turbidity?

- After water intake into the reservoir, it needs to be kept stagnated to facilitate the settling of the suspended solids.
- Sometimes, excess clay turbidity is controlled with application of alum [$Al_2(SO_4)_3$-Aluminium sulphate].
- Hydrated lime [$Ca(OH)_2$] and gypsum ($CaSO_4 \cdot 2H_2O$- calcium sulphate) are often used for reducing. turbidity. Liming increase concentration. of Ca and Mg ions, which flocculate colloidal particles
- Alum is cheaper but more effective than gypsum for turbidity control. 100-500 mg/l gypsum controls turbidity equivalent to 20-25 mg/l of alum.
- Alum is also more effective than lime in reducing the turbidity. It can reduce turbidity by 90% within 48 hours at doses of 10-30 mg/l.
- Sometimes cow dung, due to its colloidal effect, is also applied to control clay turbidity.

2.2.3 Chlorination to treat water

- Water should be free from pathogens and unwanted fish and other aquatic organisms for which treatment is undertaken in the reservoir it self.
- Treat water with chlorine (10 mg/l) as the disinfectant. Usually bleaching powder is used as the chlorine source which is applied at 350 kg/ ha-m (bleaching powder with 33% chlorine) or 500 kg/ha-m (bleaching powder with 20% chlorine).
- Open the bag containing bleaching powder smoothly with dry hand so that no powder enters into eye, nose or mouth.
- Wear a pair of gloves.
- Pour the powder to a container and spread it only in dry condition all over the pond surface.
- Never use hand in moist condition to apply bleaching powder which otherwise would corrode the skin.
- Take out the dead organisms if any and live the pond as such for 4-5 days.

2.2.4 pH correction

- Slightly alkaline water (pH 7.5-8.3) is ideal for fish farming.
- The pH of water often reduces following application of alum, gypsum or cow dung, etc. for turbidity control or correction of alkalinity and hardness. Sometimes the runoff water itself has pH in the acidic range.
- Such water needs to be applied with appropriate quantity of liming materials for pH correction.

2.2.5 Steps to apply lime

- Measure the pH of water. Pond water with pH below 7.0 needs to be treated with appropriate quantity of lime to correct the pH to 7-5-8.3, which is the ideal range.
- Pour the required quantity of lime from the bag to metallic (Aluminum) or earthen /concrete tank.
- Sprinkle water over the lime followed by stirring.
- Wait for 2-3 minutes to start the reaction (Take precaution not to touch the container in bare hand as the container becomes too hot).
- The bigger size limestone surfacing during stirring should again be sprinkled with water and left for few minutes for the reaction followed by stirring.
- Same procedure is repeated till all the lime gravels are finally powdered like wheat flour.
- Spread the powder all over the pond surface using a glove in hand if pond bottom is the target for treatment.
- The powdered lime may further be diluted with water if water is to be treated.

Lime stone

Dolomite

Fig 2.2.5 Preparation of lime:(1) Sprinking of water (2) Stirring and (3) Spreading of diluted lime

2.2.6 Pump the treated water to culture ponds from the reservoir

I. Ponds which hold water throughout the year should be drained and left for sun drying.

ii. Do not drain the pond when others in downstream taking water into their farm.

iii. Sundry the pond till cracks develop in the bottom mud.

iv. Clean the inlet and outlet area of the pond.

v. Pump the treated water from the reservoir into the pond as per requirement.

vi. Take care to save energy through use of appropriate pump and timing of operation.

vii. Check the supply channel for possible breakdown and water leakage prior to each pumping.

viii. Fix the filter net of appropriate mesh size in the filtration point across the supply channel.

ix. Check the filtering bag tied in the delivery pipe mouth frequently and washed to prevent chocking and tearing.

Drained pond

Dried pond with cracked bottom

Fig 2.2.6 Drained land and pond

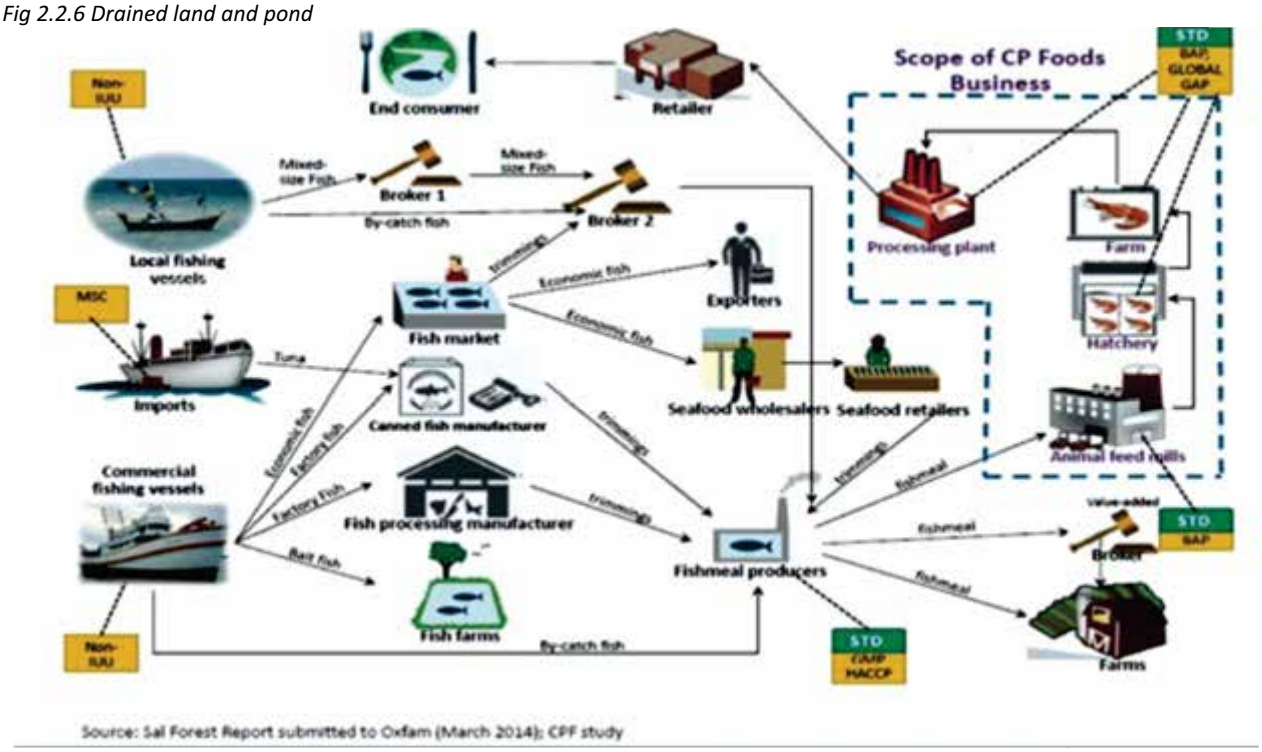


Fig 2.2.6 Fish supply chain

Filtration bag

Fig 2.2.6 Filtration bag

Tips

- Slightly alkaline water (pH 7.5-8.3) is ideal for fish farming

Exercise

1. How many hours after chlorination we can stock the seed?

Answer:_____

2. Can we use aquaculture water for agriculture? if no then why?

Answer:_____

Notes

UNIT 2.3: Apply Organic Manure

Unit Objectives

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

- Understand when to apply organic manure
- Apply organic manure to the pond

2.3.1 Apply Organic Manure if Required

- Pond bottom should have good level of organic matter which provides organic carbon for the food chain. The organic manure decomposes and yields nutrients that support the natural productivity. While different kind of manures are applied in fish pond around the world, cow dung and poultry manures are the main type used in India.
- Cow dung contains approximately 1.8, 0.65 and 40-43 % of nitrogen, phosphorus and organic carbon, respectively while poultry manure contains 3.3, 1.9 and 30-35 % of the same, respectively.
- Application of cow dung helps in production of zooplankton in the pond while poultry manure promotes phytoplankton growth due to its rich phosphorus content.
- Organic manure also helps in controlling the seepage in the pond bottom and helps in controlling the turbidity.
- Raw cow dung gives better result than the dry ones.
- Cow dung is applied @12-15 ton/ha/year. The basal manuring is done at 3-5 ton/ha depending on the richness of organic matter in the pond bottom. Rest is applied in split doses spread throughout the year (for example %00 kg/ha at fortnight intervals).
- When poultry manure is applied selectively at times of need to boost phytoplankton population, the dose should be one third of the cow dung dose.
- Organic manure should always be made to slurry form and applied uniformly in the pond.
- Never dump organic manure in pond bottom as it creates dead space in the pond bottom and squeezes the living area for fish inside the pond.

Tips

Is urea organic?

Urea or carbamide is an organic compound with the chemical formula $CO(NH_2)_2$. The molecule has two —NH_2 groups joined by a carbonyl (C=O) functional group. Urea serves an important role in the metabolism of nitrogen-containing compounds by animals and is the main nitrogen-containing substance in the urine of mammals.

Exercise

1. What is organic manure?

Answer:_____

2. What is the quantity of cow dung needed for 1 hectare pond?

Answer:_____

Notes

UNIT 2.4: Eradicate the Aquatic Weeds

Unit Objectives

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

- Understand the different methods of eradication of aquatic weed.
- Identify tools and equipments used for eradication of aquatic weed.
- Identify different types of aquatic weed

2.4.1 Eradicate the aquatic weeds using various methods and also know the precautions for using the chemicals / herbicides

Why aquatic weeds are undesirable?

- Growth of aquatic weeds in pond is highly undesirable.
- Weed choking in a pond severely affects its natural productivity.
- Weed hinder light penetration and takes up major portion of available nutrients from the pond environment and restricts the plankton production.
- Heavy growth of weed leads to greater fluctuation of dissolved oxygen and pH.
- Oxygen level becomes very high due to photosynthesis during day time but depletes severely in night due to uptake by the weed.
- Decomposition of weed leads to siltation in the pond bottom and reduces the depth.
- Weed provides shelter to predatory and weed fishes, limits the living space of fish and also obstructs the netting operations.

Types of aquatic weeds

Marginal weed (Ipomea)

Floating weed (pistia)

Submerged weed (hydrilla)

Weed rooted weed(Nemphoides)

Root weed(Nelumbo)

Emergent weed(cattail)

Mat or scam forming algae(Euglena)

Algae Dispersed through the water body(microcysyes)

Fig 2.4.1 Aquatic Weeds

Fig 2.4.1 Algae dispersed through the water body

2.4.2 Control of aquatic weeds

Manual and Mechanical methods

- Manual method used for shallow and smaller ponds.
- Simple implements like sickle, rakes, hooks, nets and ropes are used for removing the weeds manually.
- Manual method saves the detoxification time which otherwise required in chemical use.
- Mechanical methods are employed for weed removal in larger and deeper water bodies and are usually slow and expensive.
- Weed cutting launch with its bow fitted with long V-shaped sickles and having reciprocal action, power winches or mechanical lifts and diesel-operated winches are some of the mechanical means used.

Manual method

Mechanical method

Fig 2.4.2 Manual Method and Mechanical method

2.4.3 Chemical methods

Criteria for selection of chemicals

(a) Both broad and narrow spectrum chemicals are used for weed control.
(b) Efficiency in killing targeted weeds at reasonably low dosage.
(c) Cheap and easy availability
(d) Shorter detoxification time,
(e) Nontoxic to human being and live-stocks
(f) Should not have residual harmful effects on the fertility of pond soil and water
(g) Should not involve special costly equipment.

Precaution

Precaution should be taken during weedicide application. Care should be taken to avoid contact of the chemicals in eye and mouth.

2.4.4 Biological methods

Biological methods of weed control

(I). Fish, snails, cray fish, etc. are used for weed control

(II). Grass carp effectively control large amounts of submerged and floating weeds like, Hydrilla, Najas, Ceratophyllum, Spirodela, Wolffia, Azolla and Lemna

(III). Puntius gonionotus feeds on the tender foliage of the submerged vegetation

(IV). Common carps nibbles and uproots small plants at the bottom and restricts their proliferation. Its digging habit also causes turbidity and suppress the growth of submerged weed

(V). Floating weeds like Pistia, Salvinia and water hyacinth are grown in situ the pond to create shading effect that partially controls submerged aquatic vegetation in patches. Later the floating weeds are removed easily.

(VI). Black polythene sheet is also sometimes used to cover submerged weed patches for control.

Fig 2.4.4 Fishes used for biological weed control : (1) Silver barb (2) Grass Carp (3) common carp

Tips

In heavily weed choked pond, using fish often fails to control the infestation. Pond must be partially or fully cleared of aquatic vegetation prior to fish release to ensure sufficient living space so that they can check subsequent weed growth.

Chemicals used weedicide and their dosages

Weed	Chemical
Water hyacinth (*Eichhornia*)	2, 4-D, a hormone herbicide, @ 4, 6 and 8 kg/ha for small, medium and larger plants, respecti vely, through foliar spray. The herbicide solution is diluted to 400 l/ha and mixed with detergent at 0.2%; controls weed in 8 -12 weeks.
Emergent weeds	2, 4 -D @ 7 -10 kg/ha by foliar spray
Marginal weeds (*Ipomoea* and *Jussiaca)*	2, 4 -D @ 8 kg/ha by foliar spray
Floating weeds (Pistia and *Salvinea)*	Gramoxone (20% paraquot) @ 2 l/ha and 5 l/ha, through foliar spray ; control in 1 and 3 weeks, rspectively
Emergent weed (Typha and Cyperus)	Glyphosate @3 kg/ha by spaying; controls within 2 weeks
Submerged weed	Anhydrous ammonia at 20 ppm N; also acts as piscicide
Rooted submerged weeds	i. Copper sulphate ($CuSO_4$) @ 35 kg/ha in the form of mud pellets; localised application of ii. Weekly application of $CuSO_4$ for 3 -4 times uproots the plant which are removed later . iii. 2,4-D herbicide soaked in brick pellets ; root zone treatment not only more effective than foliar - spray, but also more economical, minimizes environmental pollution iv. Fine sand granules used as carriers of herbicides for slow release of active ingredient i n immediate proximity of weed biomass v. Simazine @ 3 - 6 ppm and Aquathol effective against Hydrilla verticillata

Fig 2.4.3 Chemical method

Exercise

1. What is aquatic weed?

Answer:_____

2. Why it is necessary to eradicate aquatic weed?

Answer:_____

Notes

UNIT 2.5: Eradicate Predatory and Weed Fish

Unit Objectives

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

- Identify the common predatory and weed fishes
- Know the methods to eradicate predatory and weed fishes

2.5.1 Eradicate predatory and weed fish using various methods

Control methods

- Control the predatory fishes after the weed control measures.
- The various methods used to eradicate these fishes are described in the table
- Apply the pesticide uniformly in the pond preferably in diluted mixture/solution form.
- Avoid direct contact with skin. Eye and mouth.

Control methods	Dose/ha	Detoxification time
Drying/ Hooks and line/ Netting	-	-
Mahua oil cake (saponin)	2500 kg	20 days
Tea seed cake (saponin)	200 kg	14 days
Derris/Cube root powder (9% rotenone)	25 kg	12 days
Bleaching powder (20% Chlorine)	500 kg/ha	7-10 days
Urea + Bleaching powder (18 h after urea)	100 kg+250 kg	7 days
Anhydrous ammonia	10 mg N/l	14 days
➢ Mahua oil cake besides killing fish, also acts as a good fertilizer. It brings less damage to phyto- and -zoo -plankton population compared to bleaching powder.		

Table 2.5.1 Weed eradication

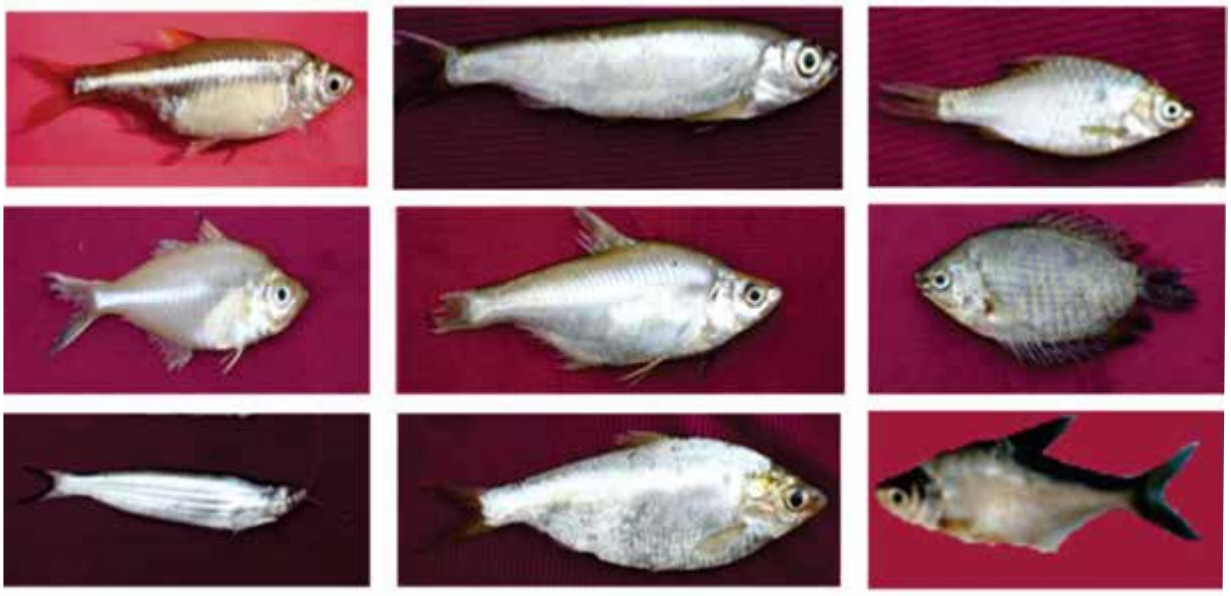


Fig 2.5.1 Common Weed Fishes in pond

Fig 2.5.1 Common Weed Fishes in pond

Tips

Predatory and weed fishes are harmful to the cultured species as they not only compete for food and space but also directly prey on them. These fishes enter into the pond with the surface run-off and establish their population. They also greatly affect the dissolved oxygen levels of the pond. SO these fishes needs to be eradicated from the pond.

Notes

UNIT 2.6: Pond fertilization

Unit Objectives

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

- Understand the need and time of pond fertilization
- Know the types of inorganic fertilizers used in aquaculture

2.6.1 Fertilize the pond with inorganic fertilizer to get desired plankton growth

Fertilisation in nursery pond

Nursery pond is used for rearing of the spawn to fry stage. The period of nursing varies from species to species. The nursery pond should have adequate quantity of food for survival and growth of the spawn. Therefore, fertilization is carried out in the pond to ensure good phto- and zoo-plankton population. The fertilization in the nursery pond done as per the following schedule.

Days of rearing	*Goroundnut/ mustard oil cake	Cow dung	Single super phosphate (SSP)
3-4 days before stocking	350 kg/ha	100 kg/ha	25 kg/ha
6th day of stocking	175 kg/ha	50 kg/ha	12.5 kg/ha
11th day of stocking	175 kg/ha	50 kg/ha	12.5 kg/ha

- *Fry performance better with groundnut oil cake than mustard oil cake
- After soaking overnight, oilcake mixed with cow dung and SSP to make a thick paste which is diluted in a bucket before uniform application
- If mahua oil cake is used as piscicide, phased manuring may not be required in the pond if transparency is 25-35 cm.
- Application of manure and fertilizers should be done during the mornings of sunny days.

Table 2.6.1 Fertilize the pond

Fertilisation in rearing and grow-out ponds

(i). Fertilization in rearing pond is different from the nursery pond

(ii). Apply cow dung @ 3-5 t/ha and SSP @ 30-50 kg/ha together as basal manure during pond preparation.

(iii). The manure should be uniformly spread preferably after making slurry. (The dose of organic manure depends on the bottom soil characteristics.

(iv). Apply cow dung at least seven days prior to fish stocking.

(v). Transparency of water is an important measure to judge the natural productivity status in a pond. Normally a productive pond should have a transparency of 25-35 cm (not applicable for turbid water).

(vi). When the transparency of the pond is higher than this range, the pond may require additional nitrogen and phosphorus to augment the production.

(vii). Apply urea and single super phosphate at 10 and 15 kg/ha respectively. Sometimes urea and DAP approximately @ 8.5 and 6.5 kg/ha respectively are applied.

(viii). The inorganic fertilizers should be diluted in water and spread uniformly in the pond.

(ix). At times the pond may not respond to organic manure or fertilizer application mostly due to presence of lower initial plankton population or unsuitable water quality.

(x). Such ponds are inoculated with plankton collected from a nearby pond using plankton net.

(xi). In case of problem with water quality, the same may be addressed first prior to fertilization.

Tips

Of the various fertilization methods used in nursery pond, phased fertilization has been proved to be one of the best methods to yield good seed survival and growth in carp nursery.

Exercise

1. Why pond fertilization is important, explain?

Answer:_____

Notes

UNIT 2.7: Aquatic Insects Control and Treatment

Unit Objectives

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

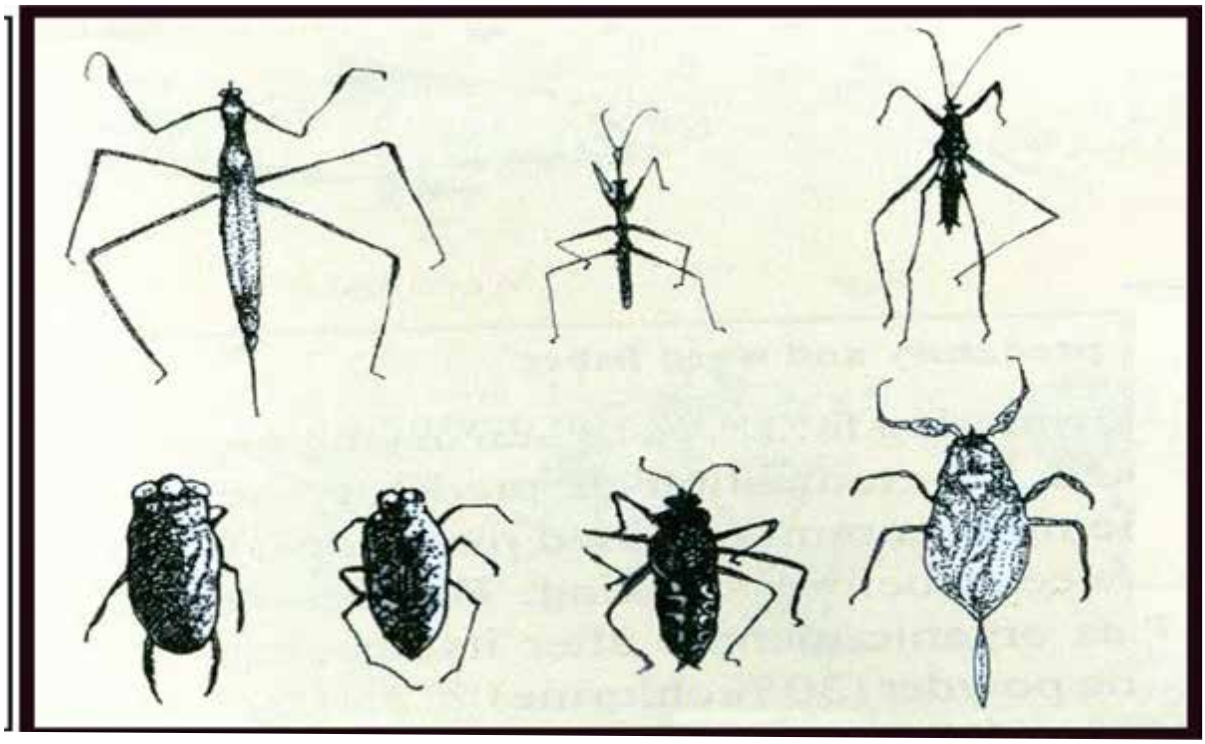
- Identify the common aquatic insects
- Know the methods to eradicate and control of aquatic insect

2.7.1 Control aquatic insects prior to seed stocking

The different methods followed for insect control in nursery ponds are as follows.

Days of rearing	Controlling agent	Dosage/ha
1 day be fore stocking	Soap -oil	Vegetable oil (56 l) + Soap (18 kg)
1 day before stocking	Oil emulsion	Diesel (75 l) or Kerosene (100 l) + liquid soap @ 560 ml
Just before stocking	Repeat netting	Fry net
Drag netting prior to spawn release is one of the most effective ways. The insects are collected into a net pocket and dipped in a bucket half filled with water and added with 25 ml of kerosene oil for 5 minutes to kill those.		

Table 2.7.1 Aquatic insects controlling



- Water stick insect (*Ranatra)*
- Water measurer (Hydrometra)
- Pond skater (Gerris)
- Water boatman (Corixa)
- Back swimmer (Anisops)
- Water cricket (Velia)
- Water scorpion (Nepa)
- Diving beetle (Cybister)
- Dragon fly nymph (Odonata)
- May fly nymph (Ephemeroptera

Tips

The pond ecosystem harbors a variety of aquatic insects. These insects attack the seed especially in the early stages, suck body fluid and few of them devour on the small seed. They also compete for oxygen and feed with the fish. Therefore, the insect population should be controlled prior to release of seed especially in the nursery system.

Notes

UNIT 2.8: Stocking

Unit Objectives

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

- The different life stages of different cultivable fishes.
- Know the stocking density of different fishes.

2.8.1 Stock the seed after following due acclimatization procedure and at appropriate density and species ration

The Seed

Fish seed refers to the stocking materials used for stocking the different types of pond. Prior knowledge on the definition of the different life stages of fish seed is required. The terminology used are as follows.

(I) Spawn:

The hatchling with complete development of organs representing as a miniature fish with stored yolk sac is called spawn. While the size of spawn varies in different species, the time taken to develop from fertilsed egg to spawn stage also differs.

(ii) Fry:

The spawn is further reared for certain period in nursery system during which they develop to fry.

(iii) finger lings:

Fry are further reared in the rearing pond system for certain period (usually 2-3 months) to get the bigger seed called finger lings. Finger lings are the ideal size for stocking in the grow-out pond.

(iv) Juveniles:

Juveniles are the advanced stage of the finger lings. In recent years, the freshwater pond system has evolved the practice of using larger seed to shorten the grow-out crop duration. Usually the finger lings are further maintained in seed rearing system for longer period to produce the juveniles and therefore the size is not well defined. Practice has evolved for maintaining the finger lings at higher density in the rearing system with sub optimal feeding to check their growth rate. Juveniles produced from such system are called 'stunted juveniles' which serves as round the year seed source for stocking grow-out ponds. Finger lings reared in such system for a year or more are called 'yearling'.

Size of d ifferent life stages of finfishes cultured in the freshwater aquaculture sector

Cultivable fishes	Spawn	Fry		Fingerling		Stunted fingerlings/ Juveniles	
	Size (mm)	Size (mm)	Rearing period (days)	Size (mm)	Rearing period (days)	Length (mm) /Weight (g)	Rearing period (days)
Catla (*Catla catla*)	5-6	25	15-20	>60	75	>100 mm/ 10g	>90
Rohu (*Labeo rohita*)	5-6	25	15-20	>60	75	>100 mm/ 10 g	>90
Mrigal (*Cirrhinus mrigala*)	6-7	25	15-20	>60	75	>100 mm/ 10 g	>90
Kalabasu (*Labeo calbasu*)	4-5	20	15-20	>50	75	>80 mm/7g	>90
Fringe lipped carp (*Labeo fimbriatus*)	5-6	20	15-20	>50	75	>100 mm/ 10 g	>90
Kuria labeo (*Labeo gonius*)	5-6	20	15-20	>50	75	>80 mm/7g	>90
Bata (*Labeo bata*)	5-6	15-20	25	>40	75	>80 mm/7g	>100
Reba carp (*Cirrhinus reba*)	5-6	15-20	25	>40	75	>80 mm/7g	>100
Silver barb (*Puntius gonionotus*)	3	15-20	25-30	>40	90	>100 mm/ 10 g	>110
Olive barb (*Puntius sarana*)	4-5	15-20	25	>40	75	>80 mm/8 g	>100
Puntius pulchelus	4-5	15-20	25-30	-	-	-	-
Pengba (*Osteobrama belangeri*)	5-6	20	15-20	>50	75	>80 mm/7g	>100
Catfishes							
Magur (*Clarias batrachus*)	5.0-5.5	10-20	12-14	70-90	60-90	-	-
Striped catfish (*Pangasianodon hypophthalmus*)	3.5-4.5	25-30	15-18	60-80	45-50	150-200g	8-10 months
Pangasisus pangasius	3.0-4.5	20-26	16-20	50-60	40-60	-	-
Yellow catfish (Horabaghrus brachyosoma)	3.0-4.5	40-50	20-30	45-60	40-60	-	-
Rita (*Rita chrysea*)	3.5-4.5	40-55	18-25	50-60	45-60	-	-
Ompok pabda	2.5	11-20	10	30-50	40-50		
O. bimaculatus	2.5	11-20	10	30-50	40-50	-	-
Snakeheads							
Striped murrel *(Channa striatus)*	3.0-3.5	20-30	20-25	50-80	45	>80 mm	>90
Giant murrel (*Channa marulius*)	4.0-4.5	20-30	20-25	50-80	45	>80 mm	>90
Others							
Koi (*Anabus testudineus*)	3.5-4.5	15-25	21	30-40	45	>40 mm	>60

Table 2.8.1 Freshwater aquaculture

Seed Stocking

- Stock the seed after proper a Acclimatization preferably in cool hours to ensure better Survival.
- steps during seed stocking
- unload the seed bag from the transporting vehicle remove the seed pack and put as such in a predetermined area in the pond preferably under shade.
- Leave the bag for 5-10 minutes for temperature simulation.
- Cut the know of the bag and unfold the mouth.
- Add the pond water at periodical interval.
- Periodically check if the temperature and pH of the packed water is simulated with the pond water.
- After brief mixing of pond water slant the seed pack and dip the lower side of he bag mouth 3-4 inch below the pond water surface so that water in the bag mixes with pond water.
- keenly observe the movement of the seed A smooth passage of seed from from the pack into the pond indicates good acclimatization while return of seed from the mouth back into the pack indicate incomplete acclimatization for which further mixing of pond water is continued.

Fig 2.8.1 Seed Stocking

Stocking density

Stocking density used in important freshwater fishes.

Species	Stocking density		
	Nursery	Rearing	Grow-out
Catla, rohu, mrigal, silver carp, grass carp, common carp	Monospecies @500-1000 spawn/m^2 in earthen pond and 1000-2000 spawn/m^2 in concrete tanks million	Mono-or multispecies at combined density of 20-30 fry/m^2 in earthen pond 30-40//m^2 in concrete tanks	Combined density of 7500 - 10000 fingerlings /ha
Clarias batrachus (Magur)	1,000-2,000 larvae/m^2 in indoor tanks	200-300 fry/m^2 in outdoor shallow concrete tanks	50000 fingerlings/ha under monoculture and 10000 fingerlings/ha under polyculture with carps
Channa striatus (Striped urrel)	750 -1000 larvae/m^2 in indoor tanks	200-300 fry/m^2 in outdoor concrete tanks	5-10% of the species composition in polyculture with carps/

Table 2.8.1 Stocking density

Tips

- Nursery ponds are usually stocked with single species for ease in counting and sale of seed.
- However, in case of limited pond availability, more species are stocked in equal proportion.

Exercise

1. What is the right time in a day for these activities?
(i) Stocking
(ii) Feeding
(iii) Harvesting

Answer:_____

Notes

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3. Assisting in carrying out culture operations

Unit 3.1 - Sampling and netting operation
Unit 3.2 - Supplementary Feeding
Unit 3.3 - Manure and Fertilizers
Unit 3.4 - Aeration and water Replenishment
Unit 3.5 - Periodic Checking
Unit 3.6 - Harvesting

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Key Learning Outcomes

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

- Methods of stocking seed in nursery, rearing and grow-out pond
- Supplementary fish feed and feed management schedule
- Methods of post-stocking culture operation
- Methods of soil and water quality management during culture operation
- Methods of fish sampling
- Methods of prevention and control of fish diseases
- Methods of fish harvesting and post-harvest management of the harvested crop

UNIT 3.1: Sampling And Netting Operation

Unit Objectives

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

- Know the right time of sampling
- Know the methods of sampling
- Identify different nets used for different types of sampling

3.1.1 Carry out periodic soil water and fish sampling and netting operation

Soil sampling

(I) Collect soil sample using core sampler from 5-7 spots distributed uniformly in each section to represent the overall soil characteristics.
(ii) At least 500 g of soil should be collected from each spot and marked clearly.
(iii) The collected soil samples should be dried under shed.
(iv) Once dried, each sample is pulverized to powder form.
(v) Mix the 5 to 7 collected samples together uniformly. Further, collect approximately 500 g of soil from this in a polythene bag.
(vi) Number the collected sample properly and sent to laboratory for testing.

Water sampling

(I) Level the sampling bottle correctly.
(ii) Collect water sample from 4-5 points of the pond to represent the whole pond area.
(iii) Collect sample at least one meter away from the dyke and from the 20-30 cm depth zone.
(iv) Collect sample every time preferably from the same spot at particular time of the day.
(v) In case sample collection for dissolved oxygen measurement, fix the water sample immediately after collection as per the standard procedure.
(vi) Take the samples as quick as possible for the laboratory test with minimum handling.

Fish sampling

(I) Net the pond at periodic intervals (fortnight or month intervals as applicable).
(ii) Use net of appropriate mesh size to reduce entangling of fish.
(iii) Ensure minimum handling during length and weight measurement during sampling.
(iv) Check the fish body surface, fin base and gill for presence of any parasite, lesion or other abnormality.
(v) Return the fish as quick as possible after the sampling after proper disinfection (dipping in potassium permanganate solution).
(vi) Inform the technician about your observation of the appearance of the fish and presence of abnormality.
(vii) The net should be cleaned properly and dried after every sampling.

Tips

What is a test hole ?

A percolation test (from percolation, colloquially called a per. test) is a test to determine the absorption rate of soil for a septic drain field or "leach field". The results of a percolation test are required to properly design a septic system.

Exercise

1. Enlist The Different Types of Sampling Gears and Equipments.

Answer:_____

Notes

UNIT 3.2: Supplementary Feeding

Unit Objectives

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

- Know the feed requirements of fish at different stages.
- Know the different feeding methods.

3.2.1 Provide supplementary feed at right time and place and in the right quantity as recommended by the technician

Supplementary feeding in Nursery pond

(I). Do not feed on the day of stocking.

(ii). In carp nursery, powdered mixture of groundnut oil cake and rice bran at 1:1 ratio by weight is used.

(iii). Such raw feed mixture when is boiled, dried and powdered, it gives better performance in terms of growth and survival in nursery and rearing pond.

(iv). Start feeding on the 2nd day onwards @ 600g/lakh spawn and increase the feed amount by 100 g/lakh spawn every day subsequently.

(v). Feed the daily ration in one meal at morning or two split meals at morning and evening hours.

(vi). Broadcast the feed uniformly so that the dry powder forms a uniform layer on the pond surface to facilitate its availability to spawn.

vii. In rearing larvae of magur, stripeed, murrel, koi, etc. specially formulated feed are also used.

Fig 3.1.1 picture of feed broadcast

Supplementary feeding in rearing pond

(I) . Estimate the weight of fish released in the pond at the beginning and at periodic intervals.

(ii). Netting should be done in the pond to catch 10-20 fish of each species to find the average body weight.

(iii). Calculate the daily ration based on the estimated biomass after each sampling.

(iv). Preferably use powdered feed for rearing the fry to finger ling stage.

(v). Besides broadcasting of the feed mixture, bag feeding is also used towards later part of the 3 month rearing phase.

(vi). Bags filled with appropriate quantity of feed are hung from poles (bamboo) placed uniformly in the pond area.

(vii). The feed bag should be place in the top 30-40 cm layer near the water surface.

(viii). Monitor the feed consumption 3-4 days after each sampling to adjust the daily ration. The daily ration should be suitably increased at periodic interval till next sampling.

(ix). The daily ration is also temporarily reduced following continuous overcast and rainfall

(x). The feed bag should be cleaned every day and sun dried.

(xi). Apply lime in the feeding area at periodic interval to keep the area clean.

Fig 3.1.1 bag feeding

Supplementary feeding in grow-out pond

(I). Calculate the daily ration based on the estimated biomass.

(ii).Commercial feed are available for grow-out pond. In case of using oil cake and rice bran as supplementary feed, those can be provided either in dough form or through bag feeding as discussed earlier.

(iii). Modify the daily ration after each sampling.

(iv). Look out for the weather condition to increase or decrease the daily ration. Feed quantity should be reduced in the day with cloudy overcast or rain. Also ration should be controlled during low temperature of the winter months.

(v). Keep the feeding area clean with periodic use of lime. If required, the feeding area may be changed at periodic interval,

3.2.2 Carry out split feeding (if any) as per instruction of the technician

Feed supplied in the pond is eaten first by the bigger fish followed by the smaller ones. Therefore split feeding is practiced in the ponds having multiple fish size to ensure feed availability to all. Such split feeding is especially required in the pond where multi-stocking and multi-harvest cropping pattern is used.

Tips

- Feeding is done as per the fish biomass

Exercise

1. Calculate daily feed requirement of 45 days old fish.

Answer:_____

Notes

UNIT 3.3: Manure and Fertilizers

Unit Objectives

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

- Apply different kind of manures used in aquaculture

3.3.1 Apply manure, fertilizer and therapeutic as prescribed/recommended by the technician

(I). Apply cow dung or poultry manure with appropriate quantity as per direction of the technician.

(ii). Try to generate a comprehensive idea on the average water depth and fix a measuring scale in the pond aligned to the average water depth.

(iii).Measure water surface of the pond periodically and calculate the approximate water volume.

(iv).Calculate the appropriate dose of inorganic fertilizers or therapeutics as per water volume. AN overdose of chemicals sometime bears the risk of significant stress or mass mortality while an under dose result in poor effect.

(v). Dilute the fertilizer or the therapeutics as per requirement and apply uniformly in the water surface.

Fig 3.2.1 liming

3.3.2 Application of lime periodically in the pond, slope

(I) Since decomposition of the unused feed, excreta and autochthonous material leads to a reduction of water pH, culture pond needs to be applied lime for pH correction as well as to facilitate the mineralization process at the pond bottom.

(ii) pH of pond water tends to reduce after rainfall.

(iii) Lime is also applied for many other reasons such as turbidity control, reducing the suspended particle etc.

(iv) Lime application should be done as per the method stated earlier.

Tips

- Ensure proper safety measures while dealing with any harmful chemicals.

Exercise

1. What is to be apply when soil is alkaline and what is to be apply when soil is slightly acidic?

Answer:_____

Notes

UNIT 3.4: Aeration and water replenishment

Unit Objectives

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

- Know the methods of aeration of water
- Know the right quantity of water to be replenish and when

3.4.1 Ensure proper aeration and water replenishment in the culture pond

- Aerators are used in ponds with higher biomass holding.
- Position the aerator properly as men tined by the technician.
- Similarly fix the air diffusers in deeper are of the pond.
- Operate aerators as per the duration and hours of the as prescribed by the technician.
- Conduct maintenance of the aerator with proper cleaning.
- Keep a record of the seepage and evaporation loss in the pond.
- Fill the pod periodically to maintain appropriate water depth compensating the water loss.
- Give water exchange as per culture protocol.
- Check the water inlet structure and filtration system during each water replenishment.

Fig 3.3.1 paddlewheel aerator airbolwer

Tips

Paddle wheels aerators should be used at least 15 feet away from the dyke and should be oriented in either clockwise or anticlockwise direction.

Exercise

1. How many aerators are required for 1, 2 and 5 hectare ponds respectively?

Answer:

Notes

UNIT 3.5: Periodic checking

Unit Objectives

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

- Understand the importance of periodic checking in aquaculture.
- Undertake appropriate action when you found some abnormality.

3.5.1 Take note of abnormal behaviour, if any, observed in pond or presence of parasites, lesion on body etc. and report it to the technician

(I). Aquaculture laborer spends the maximum time near the pond compared to other personnel of the farm for which they are the best persons to identify and report any abnormal behavior of the fish.

(ii). Abnormality like erratic/disturbed swimming, gulfing for air, irritation behavior, presence of lesion / red patches, mortality, etc. are easy to identify.

(iii). The observation of any of these should be reported immediately to the technician.

3.5.2 Take care of the farm implements, nets and gears, cleaning of pond dyke and slope, periodic pond maintenance activity, etc.

(I). Pond should be maintained clean with removal of weed growth and grass cutting in the peripheral dyke area at periodic interval.

(ii). Implements used for pond maintenance such as brush cutter, sickle, spade etc. should be maintained properly.

(iii).Ensure proper maintenance of pump (with greasing, colouring) and accessories (pipes), aerators, sampling container, sampling net, feed bag, etc.

3.5.3 Remove dead and moribund fish from the pond.

(I). Remove the moribund and dead fish.

(ii). Check for presence of any causative factor and report to the technician.

Tips

- Using net of appropriate mesh size is important to reduce sampling stress (entangling, scale removal)
- Net should have sufficient sinkers and float to increase catch efficiency

Exercise

1. List out 20 things that have to be checked every day on farm.

Answer:_____

Notes

UNIT 3.6: Harvesting

Unit Objectives

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

- Understand the importance of periodic checking in aquaculture.
- Undertake appropriate action when you found some abnormality.

3.6.1 Select desired size of fish in case of partial harvesting

(I). In case of partial harvesting, it is important to selectively harvest bigger size fishes.

(ii). Since individual weighing is not feasible, appropriate eye estimation is important to harvest the right sized fish.

(iii). The aquaculture workers need to develop the technique of sorting the big fish from the catch.

(iv). Treat the fish with disinfectant solution which are to be returned to the pond for further growth.

3.6.2 Ensure minimum handling during harvest till marketing

(I). Miminum handling has a bearing to slowdown the rigor mortis process in the fish.

(ii). Harvest the fish with minimum handling to extend the self-life of fish.

Tips

What are the things to be ensure for transportation

- Clean the harvested fish and pack with ice in suitable container.
- Pack the fish with appropriate quantity of ice as per the distance of transportation.
- Maintain hygene during harvest and packing.

Exercise

1. What are the preparations that you need to undertake before and immediate after the harvest ?

Answer:

Notes

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4. Ensure safety, hygiene and sanitation practices for culture operation

Unit 4.1 - Safety Measures
Unit 4.2 - Practice good personal hygiene
Unit 4.3 - hygiene Measures
Unit 4.4 - Manage water quality
Unit 4.5 - Clean the Pond site
Unit 4.6 - keep Fish health
Unit 4.7 - Use clean harvest equipments and containers

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Key Learning Outcomes

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

- Know methods of protecting crops during natural calamities.
- Know the various precautionary measures that should be taken during application of chemicals and therapeutics.
- Know measures to ensure hygienic conditions in fish handling during sampling and crop harvest.
- Identify the possible source of contamination and take appropriate measures to prevent those.
- Know importance in promoting safer aquaculture products to protect public health.

UNIT 4.1: Safety Measures

Unit Objectives

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

- Practice good safety and hygiene
- Clean the pond appropriately
- Remove weeds, rubbish chemical containers and old equipment from pond site

4.1.1 Ensure suitable measures for protection from natural calamities such as flood, protect dyke from erosion or break

Freshwater fish farms are constructed with due consideration of the local flood occurrence records and accordingly the height of the dykes is maintained. The pond dykes are however prone to erosion and sinking and loose height. Unprecedented rain fall brings the risk of overflowing of the fish pond and crop loss. Therefore,

(I). The dykes should be maintained at periodic intervals to keep appropriate dyke height.

(ii). Keep vigil on the cracks and depression developed in the dyke. In anticipated overflowing condition, protect the crop with net fence in the weaker or eroded dyke portion to prevent the fish from escape.

(iii). Take care also to reduce the entry of unwanted fish through the surface run-off using suitable filter net at the inlet.

(iv). Plan the fish culture operation avoiding the flooding period, i.e stock fish after the flood situation and harvest it prior to onset of rainy season.

4.1.2 Ensure protection and prevent escape of the cultured organisms

- Use net materials to prevent escape of fish during flooding situation. Webbings of split bamboo can also be used as fence in the weaker points.
- Use suitable bird scaring materials.
- Learn to use net covering, thread lining and other predatory bird scaring devices especially in the nursery and rearing ponds and also during early part of the grow-out culture.

Fig 4.1.2 of net fence and bamboo webbing fence

4.1.3 Identify common predators and preying organisms in water bodies

- Learn to identify the various unwanted fish species, i.e predatory and weed fishes.
- Avoid predation by birds and turtles in the pond

4.1.4 Restrict entry of unauthorized persons into the premises

Entry of unauthorized persons and predatory organisms bears the risk of possible contamination of the fish in the farm.

(I). Restrict the entry of unauthorized person into the farm.

(ii). Use appropriate disinfection method at the entry point. For example: a shallow disinfection pit filled with disinfecting solution like dilute potassium paramagnet should be maintained at the entry.

(iii). Ensure the visitors to dip the foot in this shallow oit prior to entry into the farm.

(iv).Disinfect the nets and gears brought from outside prior to use in the farm.

4.1.5 Be fully aware of the dosage, toxicity level and method of application of chemicals / medicines used for fish culture

- Use appropriately calculated dose of chemicals and medicine.
- Take precaution such as covering of eye, nose and mouth during chemical/therapeutic application.
- Use gloves as per requirement.
- Lime and bleaching powder should be applied avoiding direct contact of moist skin.
- Always try to apply the chemicals in the pond while walking backward against the wind flow direction.

4.1.6 Ensure all chemicals are adequately labeled and stored safely

- Label the chemicals before storing it.
- Mark the first date of using chemicals and check for expiry date prior every use.
- Keep the chemicals and therapeutics beyond the rich of children and also away from the feed stored in the store house.

4.1.7 Undertake basic safety checks before operation of any equipment

4.1.8 Wear protective clothing as and when required and ensure adherence to safety guidelines

4.1.9 Report potential hazards to the supervisor immediately

4.1.10 Follow standard procedures to deal with accidents and emergency situations

4.1.11 Use first aid kit as and when required and provide appropriate treatment in case of any injuries

4.1.12 Ensure maintenance of suitable soil and water quality parameters at all times with frequent tests

4.1.13 Ensure specified feed is provided to organisms at regular intervals and excess feeding is avoided

4.1.14 Carry out regular inspection of organisms for possible of parasites, pathogenic infections, any phenotypic disorder, spot, etc. which are usually the signs of ailments or disease outbreak

4.1.15 Ensure all nets, utensils and vessels used are decontaminated and clean

4.1.16 Implement effective security measures for prevention of theft/sabotage

Tips

- While washing hands with soap and water is ideal, many people do not have access to soap or detergent. Coal ash is commonly used as a substitute for soap. This method of hand washing is acceptable.
- If a toilet or latrine is not available, recommend using a covered bucket designated for human excreta sometime called a “honey bucket”. The honey bucket should be cleaned in the latrine or other designated area so the contents will not contaminate water sources or the fish pond.

Exercise

1. List out the 10 safety and hygiene habits that you follow everyday?

Answer:

Notes

UNIT 4.2: Practice good personal hygiene

Unit Objectives

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

- Practice good safety and hygiene
- Clean the pond appropriately
- Remove weeds, rubbish chemical containers and old equipment from pond site

4.2.1 Practice good personal hygiene

Why to practice good personal hygiene?

Dangerous microorganisms and chemicals are found in human, animal and plant waste and infected wounds. Chemicals and dangerous microorganisms can be transferred by hands and clothing spreading contamination. Washing hands and changing clothes helps prevent the spread of contamination and decreases illness.

Health and environmental security

Aquaculture activities of building ponds, stocking and harvesting fish can contaminate hands and clothes with chemicals or dangerous microorganisms. Changing clothes after working around fish ponds and harvesting fish helps prevent contamination of food, people and the environment.

How to practice good personal hygiene

Wash hands using the proper hand washing procedure.

1. Wet hands under clean, safe running water. Add soap.
2. Wash hands, wrists, in between fingers and under nails in clean, safe water using soap. Continue to rub hands together with soap for at least 20 seconds.
3. Rinse hands under clean, safe running water.
4. Dry hands thoroughly with a clean, dry towel. If possible, use a paper towel.

Tips

- While washing hands with soap and water is ideal, many people do not have access to soap or detergent. Coal ash is commonly used as a substitute for soap. This method of hand washing is acceptable.
- If a toilet or latrine is not available, recommend using a covered bucket designated for human excreta sometime called a “honey bucket”. The honey bucket should be emptied and cleaned in the latrine or other designated area so the contents will not contaminate water sources or the fish pond.

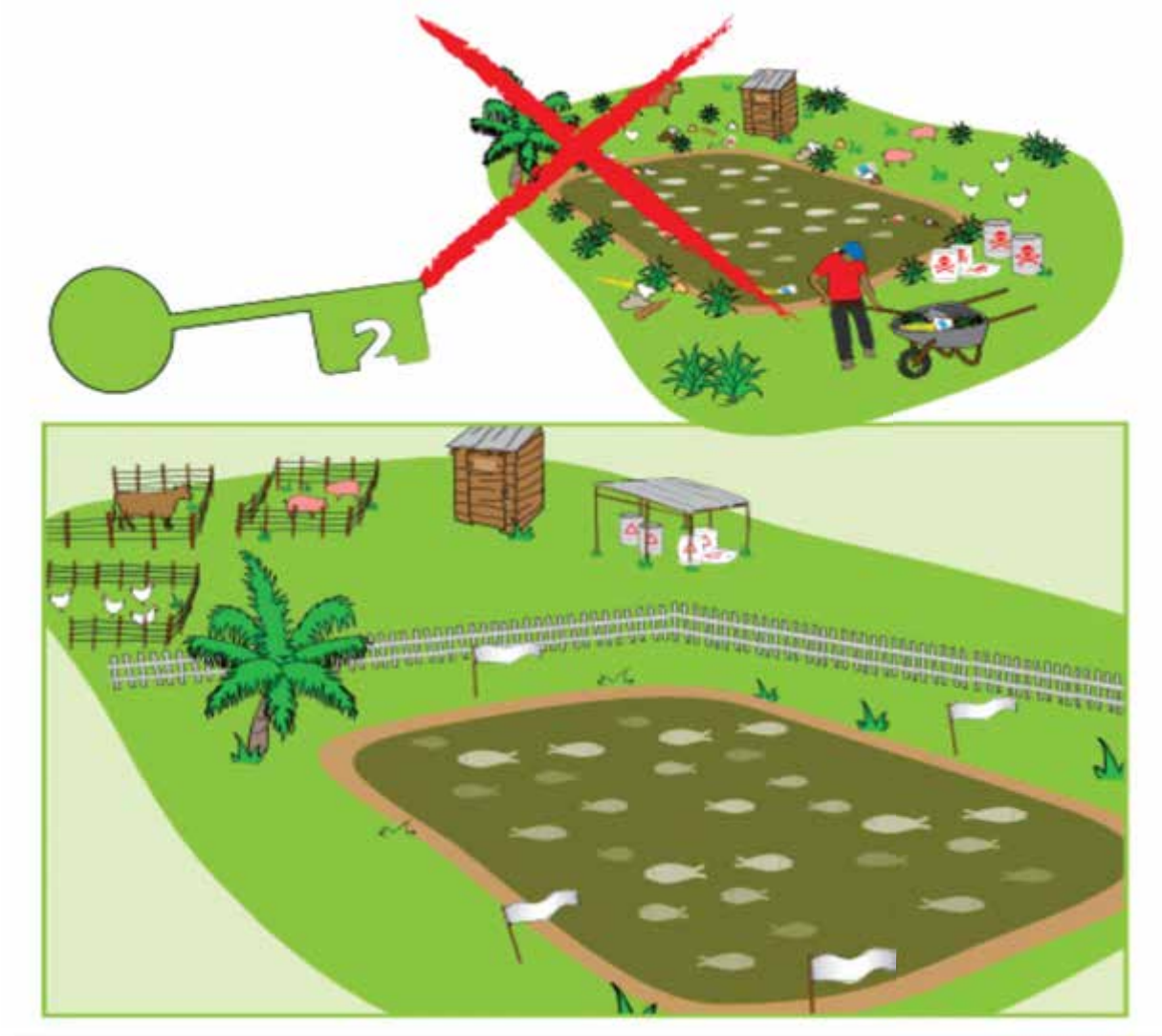
Fig 4.1.1 Five keys to safer aquaculture to protect public health

Tips

- The contamination of soil from chemical and microbiological sources can vary based on locale and can be difficult to assess. Sources of chemical contamination can include aging or abandoned farm equipment, oil and gasoline spills; agrochemicals and veterinary drugs; and air pollution from nearby industries or roadways Most microbiological contamination comes from untreated human and animal feces..

- Trainers should emphasize the environmental hazards associated with plastic bags, bottles and containers especially from a fish health and safety perspective.

- Identify the sources of contamination in the area and focus the discussion on how these sources can be identified and removed, or decontaminated. It is best to site a pond to minimize chemical and fecal exposure. It may not be possible to prevent all animals from accessing the pond, but limiting access by humans, animals and birds helps to minimize the risk of fecal contamination.



Exercise

1. List out the 10 hygiene habits that you follow everyday?

Answer:

Notes

UNIT 4.3: Hygiene Measures

Unit Objectives

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

- Use toilet or latrine to urinate and defecate.
- Wash and dry hands with a clean, dry towel after toileting, diapering a child and contact with animals.
- Cover cuts and sores when working around fish ponds.
- Wash hands and change clothes after working around the ponds and harvesting fish.

4.3.1 Identify a quarantine area and implement protocols of quarantine

- Collect the dead fishes from the pond as soon as possible.
- If disease diagnosis is to be conducted, keep the sample preferably wrapping in a wet cloth for laboratory analysis.
- Dispose of the collected dead fish following suitable protocol, i.e, burying or burning.
- Protect the dead fish from predation to put a curb on spread of disease.
- Collect the moribund or diseased fish and take in live condition to the quarantine tank.
- Follow quarantine procedure. Ensure use of appropriate chemicals in right quantity as suggested by the technician in the quarantine in the quarantine tank.
- Return the recovered fish to the fish pond.

4.3.2 Be aware of the possibilities of bacterial water borne, air borne, format borne and other contamination from human handling

- Ensure minimum contact and handling of the cultured fish.
- Learn about the sources of contamination during fish handling.
- Store the feed in well-ventilated area to avoid fungal infection and quality degradation.

- Use hand sanitisers prior to direct contact with the fish.
- Maintain hygiene in the dress materials of the labourer, farm implements and accessories before using them for fish handling (during sampling).
- Use suitable disinfecting agent (potassium paramanganent bath) prior to returning the fish to the pond after handling.

4.3.3 Apply effective systems and routines to ensure healthy and hygienic conditions during all stages of fish culture including transportation and marketing

- Conduct periodic sampling to observe the health condition and possible infection in the fish.
- Body surface, gill and fin base should observed for presence of any lesion, red patches, scale loss, ulceration, parasites, their cistus, etc.
- Look for any abnormal swimming behaviour of the fish in the pond and report it to the technician.
- Use globes during handling and packing of the harvested fish.
- Pack the fish with sufficient quantity of ice for long distance transportation.

4.3.4 Practice good personal hygiene

Why to practice good personal hygiene?

Dangerous microorganisms and chemicals are found in human, animal and plant waste and infected wounds. Chemicals and dangerous microorganisms can be transferred by hands and clothing spreading contamination. Washing hands and changing clothes helps prevent the spread of contamination and decreases illness.

How to practice good personal hygiene

Wash hands using the proper hand washing procedure.

- Wet hands under clean, safe running water. Add soap.
- Wash hands, wrists, in between fingers and under nails in clean, safe water using soap. Continue to rub hands together with soap for at least 20 seconds.
- Rinse hands under clean, safe running water.
- Dry hands thoroughly with a clean, dry towel. If possible, use a paper towel.

Tips

Aquaculture activities of building ponds, stocking and harvesting fish can contaminate hands and clothes with chemicals or dangerous microorganisms. Changing clothes after working around fish ponds and harvesting fish helps prevent contamination of food, people and the environment.

Exercise

1. Enlist 10 things you do every day for personnel hygiene?

Answer:_____

UNIT 4.4: Manage water quality

Unit Objectives

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

- Select a water source that has a very low chance of contamination with heavy metals, other chemicals and harmful microorganisms
- Prevent people and animals, including ducks, geese and pets, from flying over, wading or swimming in ponds.
- Keep rubbish, food and faucal waste removed from the home away of the pond.
- Do not pen animals over the pond

4.4.1 Water Quality

Why?

Chemicals and harmful microorganisms from manufacturing activities and in faecal waste from humans, animals, including wild birds can contaminate water. These chemicals and dangerous microorganisms can then be transferred to the fish causing illness in the fish or contamination of the fish meat.

Health and environmental security

Locating latrines away from ponds and preventing animals from entering the pond helps to minimize the risk of water contamination from faecal waste. Storing chemicals, manure, and faecal waste, away from fish ponds limits the potential for water contamination during heavy rainfalls or natural flooding and limits potential contamination.

How to limit water contamination

Identify potential sources of contamination from heavy metals, chemicals or dangerous microorganisms before selecting the water source. Surface water safety is highly variable and difficult to predict because surface waters are very susceptible to contamination from manufacturing facilities, humans and animals. When using water from rivers or streams as source water for the pond, take the water up-stream from other household activities, e.g. bathing, washing clothes, sheltering of animals.
Spring fed ponds are safe as long as the spring water is not contaminated. Ground water may be a better source, but should be checked for heavy metals, chemicals and dangerous microorganisms by your local government expert or university specialist.

Tips

Rubbish, food and faecal waste can harm water quality directly and by attracting animals that can contaminate pond water through their faeces. Removing the rubbish and waste from around the pond helps prevent water contamination. Placing items that look scary or make noise (such as a scarecrow or windmill) help keep animals out of the pond site. Putting shiny ribbons around the ponds helps scare away birds.

Exercise

1. How do "you" examine the water quality on farm ?

Answer:_____

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Notes

UNIT 4.5: Clean the Pond Site

Unit Objectives

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

- Locate ponds away from latrines, livestock, and poultry
- Choose a pond site where the chance of contamination with heavy metals or other harmful chemicals is low
- Remove weeds, rubbish chemical containers and old equipment from pond site
- Keep livestock and poultry in an area that prevents access to the fish pond

4.5.1 Health Maintenance

Why?

Dangerous microorganisms in fecal waste from people and animals can also contaminate soil, aquatic animals and fish. Heavy metal and other harmful chemicals found in soil can cause illness in fish or in people who eat the fish

Health and environmental security

Rubbish and food attract animals. Snails, which are host for parasites, live in the weeds around the pond. Removing these attractions and not allowing livestock to access the pond will help prevent contamination of the pond site, water and fish. Placing items that look scary or make noise (such as a scarecrow or windmill) help keep animals out of the pond site. Putting shiny ribbons around the ponds helps scare away birds. Removal of all plastic bags and containers from the pond site is necessary since plastic degrades very slowly and is harmful to the environment, animals and people.

How to clean the pond site

- Identify and remove possible sources of contamination including heavy metals, chemicals and dangerous microorganisms before selecting the pond site. Remove oil and abandoned farm equipment. If the sources of chemical contamination cannot be removed consider moving the pond.

- Faucal waste should be moved away from the pond site and properly treated before adding to ponds. Cut and remove weeds from around the pond site.

- f possible separate animals from the pond with a wall, fence or pen.

Tips

- The contamination of soil from chemical and microbiological sources can vary based on locale and can be difficult to assess. Sources of chemical contamination can include aging or abandoned farm equipment, oil and gasoline spills; agrochemicals and veterinary drugs; and air pollution from nearby industries or roadways
- Most microbiological contamination comes from untreated human and animal faces..
- Trainers should emphasize the environmental hazards associated with plastic bags, bottles and containers especially from a fish health and safety perspective.
- Identify the sources of contamination in the area and focus the discussion on how these sources can be identified and removed, or decontaminated. It is best to site a pond to minimize chemical and faucal exposure. It may not be possible to prevent all animals from accessing the pond, but limiting access by humans, animals and birds helps to minimize the risk of faucal contamination.

Exercise

1. Explain the Do's and Don'ts to keep a fish healthy.

Answer:_____

Notes

UNIT 4.6: Keep fish healthy

Unit Objectives

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

- Stock ponds to the proper density with healthy fish seed stock from a certified hatchery or reliable supplier
- Maintain stock at the proper density in the growing pond
- Remove and dispose sick and dead fish daily.
- Avoid using unapproved chemicals to maintain fish health

4.6.1 Health Maintenance

Why ?

Healthy fish require healthy seed, proper stocking density and good post-stocking management practices including managing stress and disease. Adding chemicals to ponds may harm the fish, hide a disease problem and leave residues in fish meat that can be unsafe for consumers.

Health and environmental security

Using poor quality seed stock can slow fish growth rate, cause illness in the fish, and lower fish survival rates. Using good quality seed ensures fish are healthy when they come into the pond. However, stocking quality fish seed alone does not ensure a successful crop, it is just the first step.
Stocking fish to the proper density helps minimize injuries, reduces stress for fish and prevents deterioration in water quality. Injury and stress of ish can lead to more disease in the fish.

How to determine seed quality

Locate a reputable hatchery to buy fish seed. Place seeds in a clear clean plastic bag so that you can see that the seeds are active, healthy in appearance, and uniform in size. Healthy fish seeds have a high potential for survival, better growth, and less disease. In some localities, stress tests and screening for specific pathogens are performed to better check the seed quality.

Tips

Stocking density varies by species, temperature and other environmental factors. Check with your local authority (government agency or university) to find out the amount of stock that is appropriate for your fish species, area and pond size.

Exercise

1. Explain the Do's and Don'ts to keep a fish healthy.

Answer:_____

Notes

UNIT 4.7: Use clean harvest equipments and containers

Unit Objectives

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

- Wash harvest containers and equipment with clean water
- Harvest fish early in the day and transport live or cool quickly
- Use clean water to wash harvested fish
- Keep harvested fish in clean containers on non porous material

4.7.1 Use Clean Harvest equipments

Why ?

During harvest, fish can become contaminated by contact with sick workers or water, ice, hands, harvest equipment and containers that are not clean. Using containers made of smooth, non absorbant material are easy to clean and provide fewer places for microorganisms to grow.

Health and environmental security

Workers are encouraged to wear appropriate personal protective equipment when harvesting large size fish. Contamination of fish by pathogenic and spoilage microorganisms and by chemicals and other toxins in the environment is a major source of food borne disease. Keeping fish at cool temperatures preserves quality and safety by slowing the growth of microorganisms (both Pathogenic and spoilage). Wash Harvest equipment and storage containers with clean water before and after use and air dry when not in use.

How to keep equipment and harvesting areas clean

- Store harvest containers off the ground in a clean, dry covered location, to prevent contamination by pests, dirt and water
- Rinse, clean, and air dry nets between uses.

How to transport safely

- Transport the fish live or keep harvested fish cool by putting them in containers with enough clean ice to cover the fish entirely or by putting the containers in a cool storage facility.
- When fish are to be held for extended periods or transported to distant markets, the fish should be kept cool.
- If fish are to be marketed live, they should be held under conditions which minimizes stress.

Tips

- Clean the area used for washing, sorting and packing fish at the end of each day to reduce the risk of contamination.

Exercise

1. List out the different types of cleaning agents that can be used at freshwater aquaculture farm

Answer:_____

Notes

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MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

ASCI
Agriculture Skill Council of India

5. Employability & Entrepreneurship Skills

Unit 5.1 – Personal Strengths & Value Systems

Unit 5.2 – Digital Literacy: A Recap

Unit 5.3 – Money Matters

Unit 5.4 – Preparing for Employment & Self Employment

Unit 5.5 – Understanding Entrepreneurship

Unit 5.6 – 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 5.1: 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

5.1.1 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!

5.1.2: 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

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

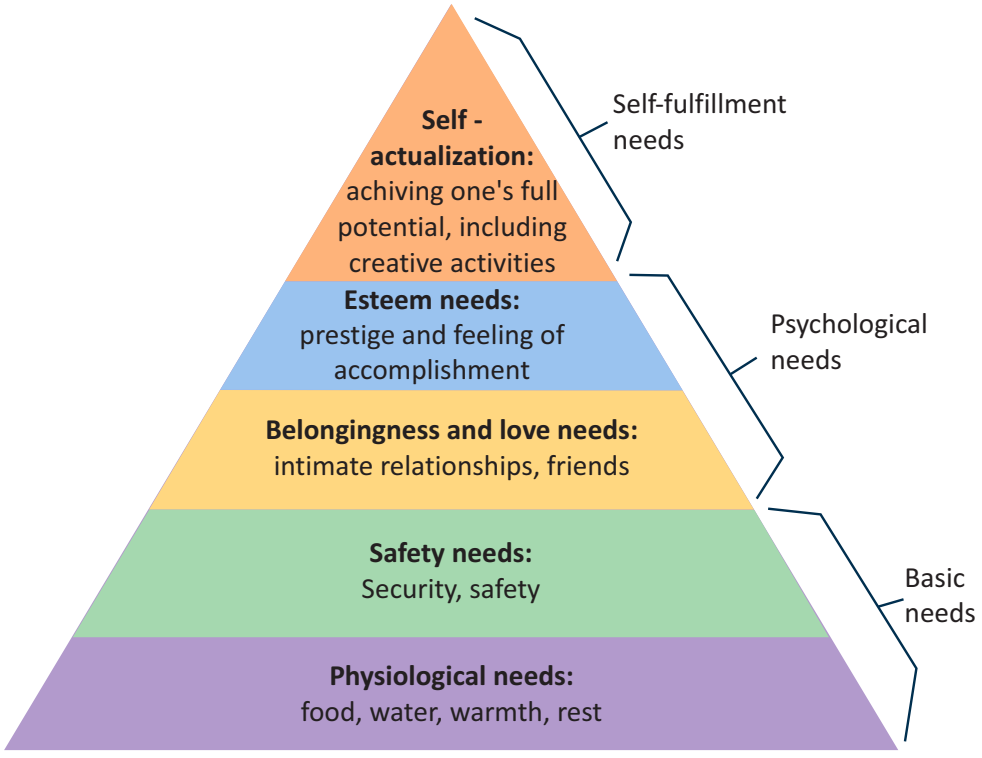
To truly achieve your full potential, you need to take a deep look inside yourself and find out what kind of person you really are. This attempt to understand your personality is known as self-analysis. Assessing yourself in this manner will help you grow, and will also help you to identify areas within 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
- Very persistent when it comes to achieving goals
- Extremely courageous
- Highly creative and innovative
- Restless - constantly looking to achieve more
- Feel personally responsible for solving problems

Think about it:

- How many of these traits do you have?
- Can you think of entrepreneurs who display these traits?

How to Cultivate a Positive Attitude

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

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

What is Attitude?

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

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

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

What Are Your Strengths and Weaknesses?

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

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

Strengths	Weaknesses

Tips

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

5.1.4 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.

5.1.5 Creativity & Innovation : What is Creativity

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

Characteristics of Highly Creative People

Some characteristics of creative people are:

- They are imaginative and playful
- They see issues from different angles
- They notice small details
- They have very little tolerance for boredom
- They detest rules and routine
- They love to daydream
- They are very curious

What is Innovation?

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

Characteristics of Highly Innovative People

Some characteristics of highly innovative people are:

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

Tips

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

5.1.6 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.

5.1.7 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.

5.1.8 Stress Management: What is Stress

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

Causes of Stress

Stress can be caused by internal and external factors.

Internal causes of stress

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

External causes of stress

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

Symptoms of Stress

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

Cognitive Symptoms	Emotional Symptoms
• 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.

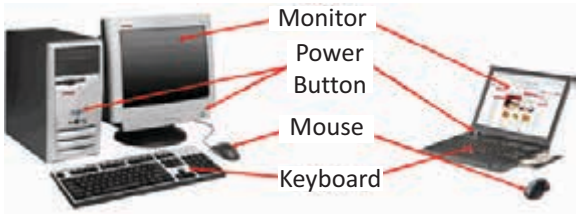
UNIT 5.2. Digital Literacy: A Recap

Unit Objectives

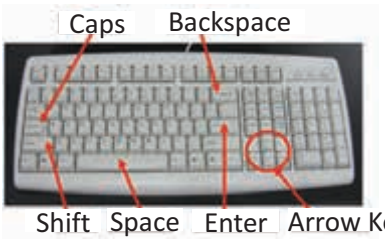
At the end of this unit, you will be able to:

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

5.2.1 Computer and Internet basics: Basic Parts of a Computer



Basic Parts of a Keyboard



Basic Parts of a Computer

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

Basic Parts of a Computer

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

Basic Internet Terms

- **The Internet**: A vast, international collection of computer networks that transfers information.
- **The World Wide Web**: A system that lets you access information on the Internet.
- **Website**: A location on the World Wide Web (and Internet) that contains information about a specific topic.
- **Homepage**: Provides information about a website and directs you to other pages on that website.
- **Link/Hyperlink**: A highlighted or underlined icon, graphic, or text that takes you to another file or object.
- **Web Address/URL**: The address for a website.
- **Address Box**: A box in the browser window where you can type in a web address.

Basic Computer Keys

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

Tips

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

5.2.2 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.

5.2.3 E-Commerce: What is E-Commerce

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

Examples of E-Commerce

Some examples of e-commerce are:

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

Types of E-Commerce

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

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

Benefits of E-Commerce

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

Benefits for retailers:

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

Benefits for customers:

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

Digital India Campaign

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

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

E-Commerce Activity

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

Tips

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

UNIT 5.3: 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

5.3.1 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.

5.3.2 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.

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

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

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

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

Differences Between Fixed and Variable Costs

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

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

Tips

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

5.3.4 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.

5.3.5 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
Full form	National Electronic Fund Transfer	Real Time Gross Settlement	Immediate Payment Service
Timings on Monday – Friday	8:00 am – 6:30 pm	9:00 am – 4:30 pm	24x7
Timings on Saturday	8:00 am – 1:00 pm	9:00 am – 1:30 pm	24x7
Minimum amount of money transfer limit	` 1	` 2 lacs	` 1
Maximum amount of money transfer limit	` 10 lacs	` 10 lacs per day	` 2 lacs
Maximum charges as per RBI	Upto 10,000 – ` 2.5 above 10,000 – 1 lac – ` 5 above 1 – 2 lacs – ` 15 above 2 – 5 lacs – ` 25 above 5 – 10 lacs – ` 25	above 2 – 5 lacs – ` 25 above 5 – 10 lacs – ` 50	Upto 10,000 – ` 5 above 10,000 – 1 lac – ` 5 above 1 – 2 lacs – ` 15

Tips

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

UNIT 5.4. 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

5.4.1 Interview Preparation: How to Prepare for an Interview

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

1. **Research the organization that you are having the interview with.**
   - Studying the company beforehand will help you be more prepared at the time of the interview. Your knowledge of the organization will help you answer questions at the time of the interview, and will leave you looking and feeling more confident. This is sure to make you stand out from other, not as well informed, candidates.
   - Look for background information on the company. Ty and find an overview of the company and its industry profile.
   - Visit the company website to get a good idea of what the company does. A company website offers a wealth of important information. Read and understand the company's mission statement. Pay attention to the company's products/services and client list. Read through any press releases to get an idea of the company's projected growth and stability.
   - Note down any questions that you have after your research has been completed.
2. **Think about whether your skills and qualifications match the job requirements.**
   - Carefully read through and analyze the job description.
   - Make a note of the knowledge, skills and abilities required to fulfill the job requirements.
   - Take a look at the organization hierarchy. Figure out where the position you are applying for fits into this hierarchy.
3. **Go through the most typical interview questions asked, and prepare your responses.**
   - Remember, in most interviews a mix of resume-based, behavioral and case study questions are asked.
   - Think about the kind of answers you would like to provide to typical questions asked in these three areas.
   - Practice these answers until you can express them confidently and clearly.

4. **Plan your attire for the interview.**
   - It is always safest to opt for formal business attire, unless expressly informed to dress in business casual (in which case you should use your best judgement).
   - Ensure that your clothes are clean and well-ironed. Pick neutral colours – nothing too bright or flashy.
   - The shoes you wear should match your clothes, and should be clean and suitable for an interview.
   - Remember, your aim is to leave everyone you meet with the impression that you are a professional and highly efficient person.
5. **Ensure that you have packed everything that you may require during the interview.**
   - Carry a few copies of your resume. Use a good quality paper for your resume print outs.
   - Always take along a notepad and a pen.
   - Take along any information you may need to refer to, in order to fill out an application form.
   - Carry a few samples of your work, if relevant.
6. **Remember the importance of non-verbal communication.**
   - Practice projecting confidence. Remind yourself to smile and make eye contact. Practice giving a firm handshake.
   - Keep in mind the importance of posture. Practice sitting up straight. Train yourself to stop nervous gestures like fidgeting and foot-tapping.
   - Practice keeping your reactions in check. Remember, your facial expressions provide a good insight into your true feelings. Practice projecting a positive image.
7. **Make a list of questions to end the interview with.**
   - Most interviews will end with the interviewer(s) asking if you have any questions. This is your chance to show that you have done your research and are interested in learning more about the company.
   - If the interviewer does not ask you this question, you can inform him/her that you have some queries that you would like to discuss. This is the time for you to refer to the notes you made while studying the company.
   - Some good questions to ask at this point are:
     - What do you consider the most important criteria for success in this job?
     - How will my performance be evaluated?
     - What are the opportunities for advancement?
     - What are the next steps in the hiring process?
   - Remember, never ask for information that is easily available on the company website.

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.

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

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

Step 1: Write the Address Section

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

Example:

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

Step 2: Add the Profile Summary Section

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

Example:

Profile Summary

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

Step 3: Include Your Educational Qualifications

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

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

Example:

Educational Qualifications

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

Step 4: List Your Technical Skills

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

Example:

Technical Skills

- Flash
- Photoshop

Step 5: Insert Your Academic Project Experience

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

- Project title
- Organization
- Platform used
- Contribution
- Description

Example:

Academic Projects

Project Title: Different Communication Skills

Organization: True Blue Solutions

Platform used: Articulate

Contribution: Content writing and graphic visualization

Description: Development of storyboards for corporate induction & training programs

Step 6: List Your Strengths

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

Example:

Strengths

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

Step 7: List Your Extracurricular Activities

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

Example:

Extracurricular Activities

- Member of the Debate Club
- Played tennis at a national level
- Won first prize in the All India Camel Contest, 2010

Step 8: Write Your Personal Details

The last section of your résumé must include the following personal information:

- Date of birth
- Nationality
- Gender & marital status
- Languages known

Example:

Personal Details

- Date of birth: 25th May, 1981
- Gender & marital status: Female, Single
- Nationality: Indian
- Languages known: English, Hindi, Tamil, French

Tips

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

5.4.3 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.

5.4.4 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 5.5. 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

5.5.1 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.

5.5.2 Leadership & Teamwork: Leadership and Leaders

Leadership means se翽 ng an example for others to follow. Se翽 ng 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翽 ng 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.

5.5.3 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.

5.5.4 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

5.5.5 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.

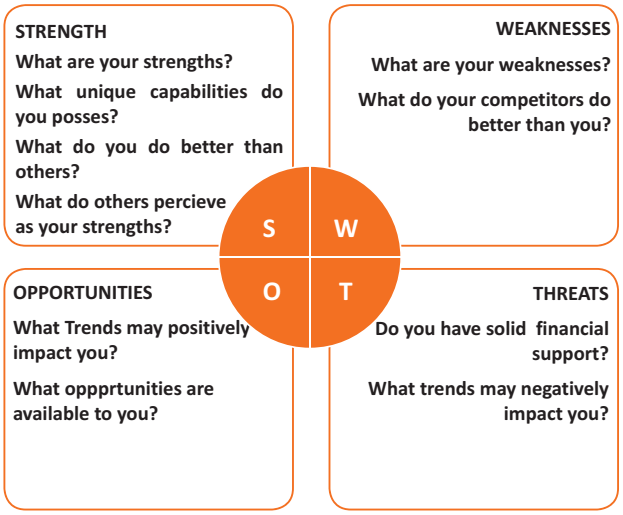
5. Think About Product Differentiation

   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.

5.5.6 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.

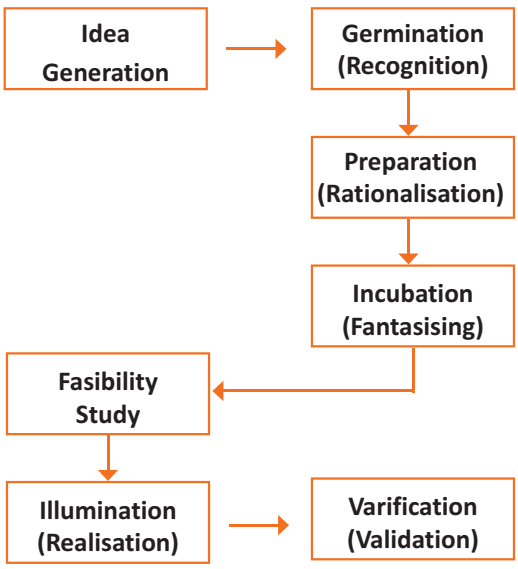
Stage 4: Incubation or Fantasizing. This stage involves creative thinking for the purpose of coming up with more ideas. Less thought is given to the problem areas.

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.



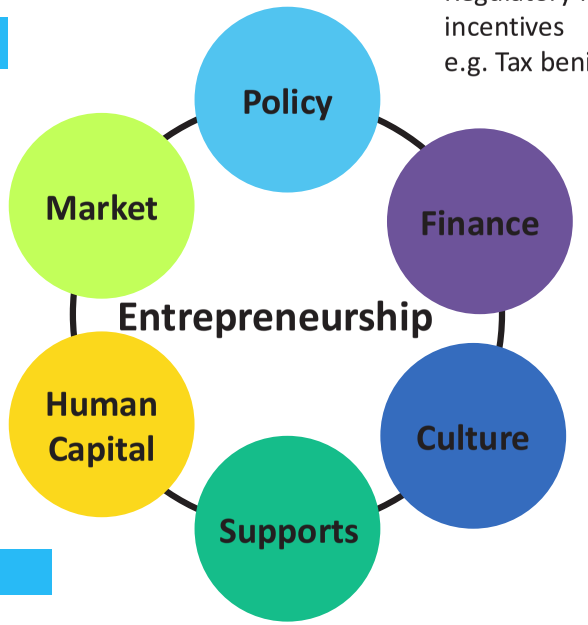
What is an Entrepreneur?

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.



Early Customers

- Early adopters for proof-of-concept
- Expertise in productizing
- Reference customer
- First reviews
- Distribution channels

Leadership

- Unequivocal support
- Social legitimacy
- Open door for advocate
- Entrepreneurship strategy
- urgency, crisis and challenge

Government

- Institutions e.g. Investment, support
- Financial support e.g. for R&D, jump start funds
- Regulatory framework incentives e.g. Tax benifits
- Research institutes
- Venture-friendly legislation
- e.g. Bankruptcy, contract enforcement, property rights, and labour

Networks

- Entrepreneure's networks
- Diaspora networks
- Multinational corporations

Financial Capital

- Micro-loans
- Angel investors, friends and family
- Zero-stage venture capital
- Venture capital funds
- Private equity
- Public capital markets
- Debt

Labour

- Skilled and unskilled
- Serial entrepreneures
- Later generation family

Success Stories

- Visible successes
- Wealth generation for founders
- International reputation

Educational Institutions

- General degrees (professional and academic)
- Specific entrepreneurship training

Societal norms

- Tolerance of risk, mistakes, failure
- Innovation, creativity, experimentation
- Social status of entrepreneur
- Wealth creation
- Ambition, drive, hunger

Infrastructure

- Telecommunications
- Transportation & logistics
- Energy
- Zones, incubation centers, clusters

Non-Government Institution

- Entrepreneurship promotion in non-profits
- Business plan contests
- Conferences
- Entrepreneur- friendly association

Support Professions

- Legal
- Accounting
- Investment bankers

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

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

Government's Role in the Entrepreneurship Ecosystem

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

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

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

Snapshot of the Entrepreneurship Ecosystem in India

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

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

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

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

Make in India Campaign

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

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

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

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

Tips

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

5.5.7 Risk Appetite & Resilience: Entrepreneurship and Risk

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

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

What is Risk Appetite?

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

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

- The type of industry
- Market pressures
- Company objectives

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

Risk Appetite Statement

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

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

Entrepreneurship and Resilience

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

What is Entrepreneurial Resilience?

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

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

Characteristics of a Resilient Entrepreneur

The characteristics required to make an entrepreneur resilient enough to go the whole way in their business enterprise are:

- A strong internal sense of control
- Strong social connections
- Skill to learn from setbacks
- Ability to look at the bigger picture
- Ability to diversify and expand
- Survivor attitude
- Cash-flow conscious habits
- Attention to detail

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.

5.5.8 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 5.6: 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

5.6.1 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.

5.6.2 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.

5.6.3 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

5.3.4 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.

5.3.5 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.

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.

5.6.4 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.

5.6.5 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
- Business Plan
- Profit-and-Loss Account
- Projected Sales and Revenues
- Feasibility Study

Guarantees or Collaterals

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

The Lending Criteria of Banks

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

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

The Procedure

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

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

Tips

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

5.6.6 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.

5.6.7. 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 mentor[1] or industry expert that I can call on?
5. Who is my ideal customer[2]?
6. Who are my competitors[3]?
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 SWOT[4] 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 product[5] 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 even[6] or make a profit?
16. How will those who invest in my idea make a profit?
17. How should I set up the legal structure[7] of my business?
18. What taxes[8] will I need to pay?
19. What kind of insurance[9] 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

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