





PAINTS AND COATINGS SKILL COUNCIL

Sector

Paints And Coatings

Sub-Sector

Application

Occupation

Decorative and Industrial Paint Application

Reference ID: PCS/Q5002, Version-2.0
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DECORATIVE PAINTER

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If we have to move India towards
development then Skill Development
should be our mission.

Shri Narendra ModiPrime Minister of India







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PAINTS AND COATINGS SKILL COUNCIL

for

SKILLING CONTENT - PARTICIPANT HANDBOOK

Complying to National Occupational Standards of Job Role/Qualification Pack: <u>Decorative Painter QP No. PCS/Q5002 NSQF Level 4</u>

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We would also like to acknowledge here the long hours spent by our colleagues in editing and improving the drafts to make the final work more reader friendly and compact.

Paints and Coatings Skill Council

About this Book

This Participant Handbook is developed to impart training for the skill and knowledge required to work as a Decorative Painter. It is designed based on the Qualification Pack PCS/Q5002 under the National Skill Qualification Framework and comprises of the following NOS/topics:

- 1. PCS/N5001: Interact and engage with customer for paint application service
- 2. PCS/N5004: Prepare and paint the surfaces for decoration and protection, either manually or by machines
- 3. PCS/N5005: Paint the wall and/or doors and window surface using machines
- 4. PCS/N5002: Paint the wall texture using hand tools or stencil
- 5. PCS/N9901: Co-ordinate with colleagues and customers
- 6. PCS/N9902: Maintain standards of product/service quality
- 7. PCS/N9903: Maintain OH&S standards and follow environmental norms

This book is designed considering the technical demand and educational background of the participants. Thus, special effort has been made to explain the concepts required for the job mostly through graphics and illustrations.

Symbols Used



Key Learning Outcomes



Steps



Note



Unit Objectives



Exercise

Tips

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1. Introduction

Unit 1.1 - About Paints and Coatings Sector in India

Unit 1.2 - Classification of Paints and the Coatings Industry

Unit 1.3 - Basics of Paint Chemistry and Paint Manufacture

Unit 1.4 - Colour

Unit 1.5 - Colour Standards

Unit 1.6 - Types of Finish

Unit 1.7 - Gloss Measurement

Unit 1.8 - What are Decorative Paints?

Unit 1.9 - Job role of a Decorative Painter



Key Learning Outcomes 👸



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

- 1. Discuss the paints and coatings sector in India, and its sub-sectors
- 2. Describe what is paint and how it is made
- 3. Name different kinds of paints, their manufacturing techniques and characteristics
- 4. Explain what a paint system is
- 5. Discuss the importance of understanding colour and colour standards
- 6. Gain in-depth knowledge about finish and types of finish
- 7. Describe your role and responsibilities as a Decorative Painter

UNIT 1.1: About Paints and Coatings Sector in India

Unit Objectives



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

- 1. Explain what paints and coatings are
- 2. Describe the purpose behind the use of paints

1.1.1 Paints and Coatings

Paints are present all around us. Wherever we look we see paint in some form – on walls, doors, floors, furniture, fans, cell phones, gas cylinders, cars, computers and laptops, motorcycles and scooters, trains and buses, shop signage and road signs, bridges, electric poles, pipelines --- the list goes on. As you see, there are very few articles or items that we see or use in our daily lives that do not carry some coating or the other. You will be surprised to know that even metal cans that are used to pack food and beverages, glass bottles carrying soft drinks and other products, metal tips of shoe laces, door knobs and handles, airport runways and factory rooftops, aeroplanes and ships - all have coatings applied on them for protection, indication or decoration. The paint industry adds so much colour and convenience to our everyday lives that it would be difficult to imagine a world without it! As you look around and see the universal presence of coatings everywhere, you would also realise that the paint and coatings field is quite complex.

What is the purpose behind the use of paints? Decoration is certainly one important reason why paints are used. They lend colour and beauty to objects on which they are applied and greatly increase their visual appeal. An equally important reason for the use of paints is protection. The life of products, especially those made of metal or wood is enhanced if an appropriate coating is applied on them. The universal use of iron and steel on various industrial and household products would be unthinkable in the absence of coatings to protect them. Likewise, Wooden furniture and articles are known to last centuries if they are protected by regular application of coatings on them. Our ancestors understood this, which explains why varnishes and lacquers are as old as civilisation itself.

Coatings are also used for "indication". All of us are aware that red is a colour used to indicate danger or fire and hence fire tenders, stop signs and caution/danger signals are invariably painted red. Ambulances and hospital furniture are always painted white while school buses are yellow. You will find that paints help to identify and make life convenient for us. White road marking, red post boxes, green park fencing, black and yellow taxis and auto rickshaws – one can think of many such examples.

Paints also help to improve cleanliness and hygiene. Coatings with antifungal properties help to keep walls in homes and buildings free from fungus especially in damp weather. Coatings used in food cans prevent the contents from spoiling and serve as a protective barrier. Coatings can even help retard fire or enhance the protection against fire. Thus, there are many uses for paints and coatings in our everyday life.

While the common person sees it as being colourful with a great deal of variety, to the technical people formulating and making paint and to those who apply it on surfaces, it is a complex world --- of different chemistries and technologies, of a range of demanding and often conflicting requirements of many application challenges and steadily increasing customer expectations.



Fig 1.1 Paints are used Everywhere

Scan the QR Code to watch the related video



www.pcsc.in/2021/09/09/if-you-are-a-painter-or-aspiring-to-be-we-can-help-you/

UNIT 1.2 Classification of Paints and the Coatings Industry

-Unit Objectives 🧖



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

- 1. List different types of paints
- 2. Explain characteristics of each type

1.2.1 Types of Paints

Broadly, paints are of two types, viz. decorative and industrial.

Decorative paints consist mainly of products that go on interiors and exteriors of buildings as well as on furniture items to make them look aesthetically pleasing. Industrial paints include a wide variety and are further classified under various subgroups, such as Automotive OE, Automotive Refinish, Powder Coatings, General Industrial, Coil Coatings, Protective and Marine Coatings, Packaging Coatings etc

DECORATIVE	INDUSTRIAL
Building Exteriors	Automotive OE Finish
Building Interiors	Automotive Refinish
Furniture	Powder Coatings
	General Industrial Paints
	Coil Coatings
	Protective Coatings
	Marine Coatings
	Packaging Coatings

Table 1.1 Decorative and Industrial Paint

— Notes		

UNIT 1.3 Basics of PaintChemistry and Paint Manufacture

Unit Objectives ©



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

- 1. Talk about the components of paint and their types
- 2. Explain the process of manufacture of liquid and powder paints
- 3. Explain different paint systems and their features or characteristics

1.3.1 Components of Paints and Coatings

The success of any coating depends on its nature, chemical composition, the physical condition of the substrate and application techniques. The compositions vary considerably depending on the end applications, economics and the durability expectations of the coated components. A typical paint product is a homogenous mixture of pigments, extenders, resins or binders, additives and solvents.

Pigments: Pigments are powder material insoluble in resin, water, or solvents and impart colour and opacity (hiding power) to the paint. They may be organic or inorganic. Combinations of different coloured pigments give a variety of other colours. In metallic colours, aluminium / other metal pigments and effect pigments (pearl mica) are used to impart sparkling / metallic effect.



Fig 1.2 (i) Colour pigments



(ii) White pigment



(iii) Metallic pigments



(iv) Extender

Extenders: Extenders are economical minerals added to increase the pigment content of the paint and contain the cost. They give filling properties, increase bulk volume and add certain desired properties to the paint. Calcium carbonate is a typical extender used in water-based decorative paints.

Resins or Binders: Resins are prepared by a chemical process called polymerisation. The resin helps to bind the pigment particles together and hence it is also called a binder. It is a major ingredient of any paint and is responsible for the film formation in a paint. The paint performance depends mainly on the type and quality of resin. Different resins are used in paints depending on the end use. Resins may be solvent based or water based.





Fig 1.2 (v) Resins used in coatings







Polyester Resin



Thermosetting Acrylic Resin



Epoxy Resin

Fig 1.2 (vi) Types of resins

Additives: Additives are used in small quantities for enhancing certain desired properties like pigment wetting and dispersion, ease of application, flow and levelling, drying, curing, UV resistance, colour

stability etc. In general, additives upgrade the performance properties of paint. Examples – anti- settling agent, anti-skinning agent, anti-sag agent, flow modifier, adhesion promoter, de-foamer, wetting agent, driers, matting agents etc.



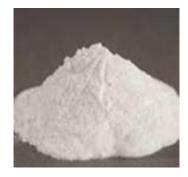




Fig 1.2 (vii) Additives in liquid and powder form

Solvents: These are liquids used to reduce the viscosity of paint so that it can be easily applied on the surface. Solvents can be classified as aliphatic (mineral turpentine), aromatic (xylene, toluene), alcohols, ketones and esters. For water based products, water is the solvent.

A solvent may be a true solvent, co-solvent or a diluent. Different solvents have different ability to dissolve the resin. A solvent that dissolves a resin is the true solvent for that particular resin. Co-solvent dissolves the resin in the .presence of the true solvent. A diluent is used only to reduce the viscosity. There are fast evaporating, medium evaporating and slow evaporating solvents. Generally, a combination of different solvents is used to achieve the desired film performance.

Powder coating, which is paint in a dry powder form, does not require any solvent during manufacture or application. As we shall see in the next sections, the manufacturing process for powder coating differs from that of liquid paints. The equipment used for powder manufacture are also different.

-1.3.2 Characteristics of Different Resins -

As we have already seen, resin is a major ingredient in paint and is responsible for making the paint into a film. There are different types of resins that can be used to make paint. It is important to understand the characteristics of each resin type as they determine the properties of the final paint.

TYPE OF RESIN	CHARACTERISTICS
ALKYDS	Alkyds are economical resins, mainly used in architectural paints. Enamel or oil paint is based on this resin. Technically, an alkyd is an oil modified polyester. By adding driers (special additive) these paints are made air-drying type. Paint film formation takes place at room temperature.
POLYESTERS	These resins are superior to alkyd resins in performance. They are mainly used in automotive/general industrial paints and powder coatings.
ACRYLICS	These resins have good durability against ultraviolet rays. They are mainly used in automotive clear coats, base coats and mono coats.
EPOXIES	Epoxies have good corrosion resistance, chemical resistance and water resistance properties. They are used mainly in protective coatings. These paints are supplied as base and hardener packed in separate containers. Such paints are called two pack (2K) paints.
AMINO	These are melamine formaldehyde (MF) or urea formaldehyde (UF) resins used for curing and achieving hardness of the paint film. These resins cross link with alkyd, polyester, epoxy resins and give excellent toughness. This reaction starts at high temperature (above 120° C). Hence, such paints are supplied as one pack (1K) paint. MF resin is widely used in automotive paints.

ISOCYANATE

This hardener reacts with alkyd, polyesters and acrylic resins to form Polyurethane coatings. The crosslinking reaction between the -OH of the resins and -NCO of the isocyanate hardener starts at room temperature, once the two are mixed. Hence these paints are supplied as 2K (base and hardener) packed in separate containers.

Table 1.2 Characteristics of Different Resin

1.3.3 Comparison of Paint Systems

We have already seen that there are many different types of resins that can be used in the manufacture of paints. Paint technologists refer to these as different paint chemistries. Thus, a paint chemistry is defined by the binders or resins that are used to make it.

Paints from different chemistries vary in properties such as curing time and temperature, appearance, mechanical properties, durability, chemical resistance, cost etc. Thus, depending on the end use requirements of the painted product / surface, the right chemistry is chosen.

Paints are classified based on the type of resin used such as alkyd-based paints, polyester paints, acrylic paints, epoxy paints, alkyd-amino paints, polyurethane paints etc. Further, paints are classified by:

- 1. The physical state liquid paint, stiff paint, powder coating
- 2. Mode of thinning: water thinnable / solvent thinnable
- 3. End use: architectural, industrial, protective coatings, automotive coatings etc.
- 4. Mode of drying: air drying, forced drying, baking / stoving, UV cured
- 5. Order of application: Undercoats (primer, primer surfacer) and top coats

In the case of powder coatings, the types of powders based on resin chemistry include epoxy, epoxy-polyester, pure polyester, polyurethane and acrylic powders.

- Notes 🗐 -			

UNIT 1.4 Colour

Unit Objectives 6



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

- 1. Explain the concept of colour
- 2. Talk about different categories of colour
- 3. Discuss how we perceive colour

-1.4.1 Colour Concepts

When we speak of paints, the first thought that comes to our mind is that of colour. We always associate paints with colour. We see the colour of an object when light falls on it and gets reflected. In darkness, we see no colour. Similarly, under different light sources such as sunlight, fluorescent light or sodium vapour street lights the same object will appear different in colour. So the colour that we perceive depends on the light source. When we speak of colour, we normally refer to what is seen in day light. The colour of an object that we perceive changes with the light source.

Colours can be classified as follows:

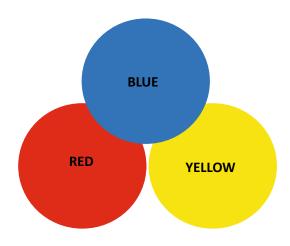


Fig 1.3 (I) Primary Colours

PRIMARY COLOURS SECONDARY COLOURS

Fig 1.3 (ii) Secondary Colours

Primary colours:

Red, yellow and blue are called primary colours They cannot be obtained by mixing together other colours

Secondary colours:

Orange, green and violet are called secondary colours.

They are obtained by mixing in equal amounts two adjoining primaries.

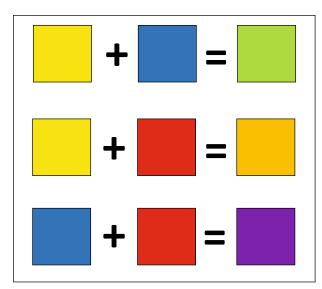


Fig 1.3 (iii) Mixing of colours

Mixing of colours:

- 1. Yellow + Blue = Green
- 2. Red + Yellow = Orange
- 3. Blue + Red = Violet



Fig 1.3 (iv) Intermediary colours (Pinsdaddy.com)

Intermediary colours:

When the primaries are not mixed in equal amounts, intermediary colours are

formed, such as yellow-green (chartreuse), green-yellow (apple green), etc.

Tertiary Colours: Tertiary colours are obtained by mixing two secondary colours, such as orange with green (olive), green with violet (slate) or violet with orange (russet).



Fig 1.3 (v) Tertiary Colours (Firstascentdesign.com)



Fig 1.3 (vi) Complimentary Colours (Copic markertutorials.com)

Complimentary Colours: Colours that appear opposite each other on the colour wheel are called complimentary colours. Complimentary colours include: red and green, yellow and blue etc. A complimentary colour is often used to reduce the chroma (brightness or intensity) of its opposite. When two complimentary colours are mixed in equal parts, although theoretically they should produce black, they produce neutral a greyish dark brown.



Fig 1.3 (vii) Warm and cool Colours (Webflow.com)

	Warm Colours	Cool Colours
HUES	Reds Yellows Oranges Red violets	Blues Blue-greens Blue-violets
NATURE	Vivid, bold	Calming, soothing
USUALLY DEPICT	Sun, fire, heat, warnings	Water/water bodies, cold environs, freshness

Table 1.3 Warm and Cool Colors

– Notes 🗐 –			

UNIT 1.5 Colour Standards

Unit Objectives 6



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

1. Explain what are colour standards and why they are useful

1.5.1 Benefits of Colour Standards

RAL is that commonly used standard for defining colours for paint and coatings. It is the most popular central European Colour Standard used today. The colours are used in architecture, industry and road safety. The human eye distinguishes about ten million colour shades. How can we tell exactly which colour we mean? With the use of RAL colour charts!



Fig 1.4 RAL Shade Card

Since 1927, RAL has created a uniform language when it comes to colour. It has standardised, numbered and named the abundance of colours. These standards are easily understandable and applicable worldwide. Some example colours from the RAL colour chart are mentioned below. The first digit relates to the shade of the colour 1.1

- 1xxx Yellow RAL 1000
- 2xxx Orange RAL 2000
- 3xxx Red RAL 3000
- 4xxx Violet RAL 4001
- 5xxx Blue RAL 5000
- 6xxx Green RAL 6000
- 7xxx Grey RAL 7000
- 8xxx Brown RAL 8000
- 9xxx White/Black RAL 9001

Green Beige - RAL 1034 Pastel Yellow (27)

Yellow Orange - RAL 2012 Salmon Orange (12)

Flame Red - RAL 3031 Orient Red (22)

Red Lilac - RAL 4010 Telemagenta (10)

Violet Blue - RAL 5024 Pastel Blue (23)

Patina Green - RAL 6034 Pastel Turquoise (32)

Squirrel Grey - RAL 7047 Telegrey 4 (37)

Green Brown - RAL 8028 Terra Brown (19)

Cream - RAL 9018 Papyrus White (12)

UNIT 1.6 Types of Finish

Unit Objectives 6



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

- 1. Explain finish
- 2. List different types of finish in common use

1.6.1 Types of Finish -

Besides colour there are two other aspects describing the appearance of a finish that you will come across – 'Gloss' and 'Type of finish'. Gloss refers to the shine in the paint film. A high gloss surface appears mirror like whereas a matt finish is dull or flat. The gloss level is expressed as percentage of the light that is reflected from a surface in a mirror like fashion. Since the extent of reflection also depends on the angle at which the surface is held, gloss level is measured and expressed as a value at a specific angle.

FINISH	GLOSS LEVEL
Dead Matt	0-15%
Matt	15-30%
Egg Shell Matt	30-45%
Satin	45-60%
Semi Glossy	60-75%
Glossy	75-90%
High Gloss	90% +

Table 1.4 Types of finish

Type of finish refers to the texture or the visual feel of the finish. Examples of common types of finish are illustrated below.







Fig 1.5 (i) Gloss, semi-gloss and matt finish

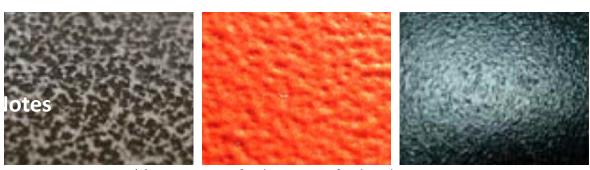


Fig 1.5 (ii) Hammer tone finish, structure finish and coarse texture

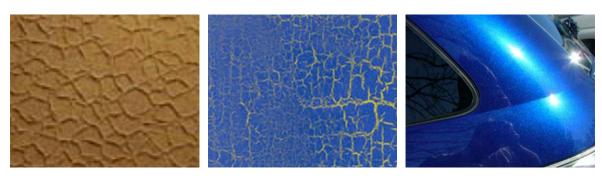


Fig 1.5 (iii) Wrinkle, antique and metallic finish

— Notes 🗐 ————		
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UNIT 1.7 Gloss Measurement

Unit Objectives 6



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

- 1. Explain gloss and its measurement
- 2. Describe how gloss value is expressed

1.7.1 GLOSS MEASUREMENT

- Gloss is measured by a gloss meter at different angles
- Gloss reading depends on the angle at which it is measured. So, gloss is always expressed as a percentage at an angle (e.g.: 60% at 20°)
- An angle of 60° is most common in the coating industry. Usually recommended for medium gloss levels
- An angle of 20° is used to achieve a more differentiated result of high gloss surfaces usually recommended for Automotive class "A" finish using liquid coatings
- An angle of 85° is used to achieve a more differentiated result of low gloss surfaces, not so popular in coating industry

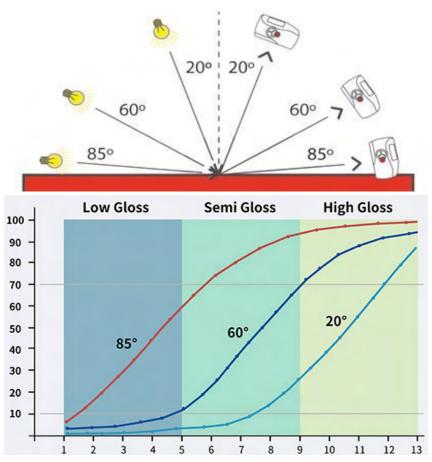


Fig 1.6 Reading gloss at different angles

UNIT 1.8 What are Decorative Paints?

Unit Objectives ©



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

- 1. Describe what are decorative paints
- 2. Discuss different forms of decorative paints
- 3. Explain the differences between types of decorative paints

1.8.1 Decorative Paints

Decorative Paints comprises interior wall paint, exterior wall paint, wood finishes, enamels and ancillary products such as primers, putty, etc. In the decorative paints segment, a good part of the demand comes from household painting. One salient feature of this segment is that the demand peaks during festive seasons. Decorative paints account for 75% of the Indian paint market. Application plays a very important part in the quality, appearance and performance of paints. Given that 75% of the paint demand is in the decorative segment and this segment is projected to grow in the years ahead, the opportunities for decorative painters is large and growing. Apart from general painters who do painting of masonry, metal and wooden surfaces, there are specialists in wood finishes who polish and spray paint wooden surfaces, specialists who do textured finishes and so on. There is a great demand for skilled, professional painters and it is growing.

Several established paint companies are now offering painting services to their customers and therefore, opportunities in established companies for painters is growing fast. This will mean professional growth from painters to supervisors and managers of projects.



Fig 1.7 A Well Painted Wall (Associated paints.com)

1.8.2 Forms of Decorative Paints -

LIQUID PAINTS PASTE POWDER

- Liquid paints, most common form of paints, may be either solvent thinnable or water thinnable
- Examples of solvent thinnable paints are Enamels, Solvent based primers and Varnishes.
- Examples of water thinnable paints are interior and exterior emulsions and waterbased primers.
- Some economy paints are supplied in a thick paste like consistency.
- Example is Distempers. These are diluted to the required consistency prior to painting.
- Putty is also in paste form and is used to fill cracks or dents in the surface.
- In decorative paints, Cement Paints are supplied in powder form.
- This is mixed with water and converted to a liquid paint and then applied on the surface.





Fig 1.8 Liquid paints and powder paints (durgambasuppliers.net, bakerross.co.uk)

1.8.3 Types of Decorative Paints

SOLVENT THINNABLE PAINTS
Enamels
Varnishes

- Emulsions are water-based paints and can be used for interior or exterior application. Exterior emulsions are specially fortified for protection against UV rays and to withstand direct rainfall on the surface. This is achieved by adding certain additives to the emulsion paints. In interior emulsions there are several types available: (a) matt finish (b) silk (c) lustre or pearlescent finish. The difference in these different types of emulsions is varying levels of gloss and in the case of pearlescent finish additives to give a metallic feel. All this is achieved by adding special additives.
- Enamels are solvent based paints and normally applied on metallic or wooden surfaces. Enamels are also available in varying levels of gloss (glossy, semi glossy, matt) but the most popular one is gloss finish.
- **Distempers** are supplied in high viscosity almost in paste form. Distempers are ideally suited for interiors. Distemper paints needs to be thinned with water for achieving application viscosity.
- **Varnishes** are enamel paints without pigments and are clear coatings. Like enamels they are widely used on metal and wooden surfaces.
- **Cement paints** are normally sold in powder form. These are economically priced exterior paints. Like distemper, cement paints need to be thinned with water for application.

Notes 🗐 —		

Scan the QR Code to watch the related video



www.pcsc.in/2022/04/11/basics-of-decorative-painter/

UNIT 1.9 Job Role of a Decorative Painter

Unit Objectives ©



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

1. Clearly state different aspects of a decorative painter's job

1.9.1 Role of a Decorative Painter-

A decorative painter is a person who applies decorative paints on architectural surfaces. Performance of paints depends on three factors: the quality of the paint in the can; the surface and the application. Any shortfall in any one of them will result in a less than good paint performance and hence an unhappy customer. The painter's main role is to effectively manage these three factors to deliver a satisfactory paint performance. For a household customer the key concerns are quality, cost and time. So, a good decorative painter will not only deliver a quality paint job but also be able to estimate the total cost with reasonable accuracy and get an agreement from the customer on the costs. Having the customer's agreement on the costs, he will ensure that he stays within the costs agreed. The customer also needs to understand the time frames and the likely date by which the painter will complete all his jobs and exit. The time frame needs to be agreed to and adhered to, so that the overall experience of the customer is good and favourable to the painter.

Due to rapid economic growth in India, income levels of people are rising. This is leading to higher spending on home maintenance and decoration. A good deal of new buildings are also coming up to meet the needs of employed persons with good income levels. These factors are contributing to a rapid rise in decorative painting jobs. Therefore, the future for a person well trained in this field is very good.



Fig 1.9: Special effects on interior walls (classic.mouldings.com, diynetwork.com, archiexpo.com)



1. Decorative Paints account for 75% of the paint market in India. The use of water-based paints for interior and exterior masonry surfaces is increasing. With the paint industry growing at about 12% p.a. the demand for decorative painters is also increasing.

Exercise



$\label{lem:constraints} \textbf{Answer the following questions:}$

1.	1. Discuss the roll of decorative painter.		
2.	2. Explain different types of paints.		
3.	Write a short note on gloss measurement.		
4.	List different types of finishes.		
5.	Explain colour concepts.		
6.	Discuss the characteristics of different resins.		
7.	What do you understand by paints and coating?		
Fill in the Blanks:			
1.	with antifungal properties help to keep walls in homes and buildings free from fungus especially in damp weather.		
2.	Industrial paints include a wide variety and are further classified under various subgroups, such as		
3.	are powder material insoluble in resin, water, or solvents and impart colour and opacity to the paint.		
4.	. A diluent is used only to reduce the		
5.	The is expressed as percentage of the light that is reflected from a surface in a mirror like fashion.		
6.	Gloss is measured by a at different angles.		









2. Manage Interaction with Customer During Painting

Unit 2.1 - Customers for Decorative Painting

Unit 2.2 - Conduct and Communication Before Painting

Unit 2.3 - Conduct and Communication During Painting



Key Learning Outcomes 👸



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

- $1. \ \, \text{Explain the mindset of a customer}$
- 2. List steps that would help maintain polite and productive communication with the customer
- 3. State how you will align your service to customer expectation
- 4. Spell out the dos and don'ts in managing customer interaction before, during and after the job

Unit 2.1: Customers of Decorative Painting

Unit Objectives 6



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

1. Capture clearly and comprehensively all the customer's requirements

2.1.1 Customer's Mindset for Decorative Painting

Decorative painting often involves repainting jobs in homes and small commercial areas such as a shop or an office. Even in larger premises, at times the painting job may be restricted to one or two rooms or a small portion of the premises. This may be the case for example when a function is being planned in a part of the premises, or a baby room is to be decorated before the arrival of the newborn or when a bed room is being spruced up for a guest who is expected to visit. In each of these cases, the paint job may not be large enough to warrant a contractor. Instead, it may be directly given to a decorative painter who may carry it out with the help of a couple of assistants. Such situations would entail a high level of interaction between the painter and the customer before, during and after completion of the painting job.

Even where the job is large and is being handled by a contractor with several painters on the site, you will find that your role as a decorative painter often brings you in close proximity to persons from the customer's side. It is very important to manage such situations well so that a positive impression is left in the customer's mind. No matter how good the quality of work is, if the behaviour of people leaves an unpleasant taste, the customer is unlikely to hire the painter again or provide good references.

In this module we learn about the correct ways to conduct oneself in the customer's premises and to communicate with them at various stages in the course of the work.



Fig 2.1: Paints help create a different look for Every Wall (desertpriderealty.com)

UNIT 2.2: Conduct and Communication Before Painting

Unit Objectives



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

- 1. Schedule a visit to the potential customer's site and observe all meeting courtesies
- 2. Systematically assess the time and cost needed to complete the jobList the different types of substrates in decorative painting
- 3. List the do's and don'ts of communication with customer
- 4. Discuss about various types of surface flaws, their possible causes and their repair solutions
- 5. Make an estimate of the job explained by your customer

2.2.1 Visiting the Customer's Premises

One or more visits to the customer may be required to understand the work to be done and agree on cost and timelines. Always visit the customer on the date and time agreed. Should any problem prevent you from visiting on the scheduled date and time, then you must inform the customer accordingly before the scheduled date and get the customer's agreement on the revised date and time. Being punctual and keeping commitments for visits sets the tone for customer experience. Ensure that you are neatly groomed and in a presentable condition when going on such visits. Carry all the necessary tools for the initial meeting and discussion. The tools must include:

- Pencil / pen
- Note book
- Measuring tape
- Shade cards
- Moisture content measuring meter
- Shade panels indicating gloss, matt, sheen / semi glossy finishes
- Catalogue of textured finishes and designs
- Home décor books to show colour combinations



Fig 2.2: Things you must carry at first meeting

The essence of good communication is that the receiver of the communication correctly understands the intended message. To ensure that, it is first and foremost important to be a good listener. Listen carefully and understand the customer's requirements and expectation correctly. Repeat your understanding and confirm with the customer that your understanding is correct. Respond to the customer sincerely and factually. Make sure the customer understood your communication exactly.

2.2.2 Basic Communication



DO	DON'T
Speak politely and with respect	Do not raise your voice and speak loudly
Do not raise your voice and speak loudly	Do not be argumentative
Use simple language and explain technical terms for the customer's understanding	Be polite and firm on what is not acceptable to you
 Remain attentive while in conversation and do not fidget with your mobile or anything else while talking to your customer 	Don't talk unnecessarily and about unrelated things
• If you do not have an answer to a customer's query, say so. Don't try to cover up with smart talk	Do not be vague
• It is important to be honest in all aspects of your interaction	

Table 2.1: Basic Communication

2.2.3 Customer's Painting Service Requirement

It is important to begin with a comprehensive understanding of the customer's painting service requirement. To understand the requirement, the following questions must be asked.

• Is the painting being done for a special occasion like marriage, festival, etc. or is it a regular maintenance painting. If it is for a special occasion, when is the occasion? How many days do you have between now and the special occasion? Will it be sufficient for completing the job?

- Does the customer have a budget for painting or an estimate of how much he wants to spend?
- What quality of painting does the customer want? Does the customer want a complete scrape down and application of the entire system? Or an over coating job?
- Will the house/property be unoccupied, or will it have the residents living there during the painting?
- Does the customer have any time lines or target dates by when the painting needs to be completed?
- Are there any specific problems the customer needs the painting service to address in the house?
- If repainting, when was the last time it was painted and what system was used?
- What is the general condition of the walls, wooden surfaces, etc.?

2.2.4 Probable Issues Before Painting

- Price disagreement: Most customers have a budget for painting and would like to confirm total costs below this budget. To start with, inform the customer about the different qualities of paints and accessories available to suit every budget. Advise the customer on ways and means to reduce the overall cost if the customer finds it too high. However, never recommend measures to reduce costs that will result in poor performance and/or early paint failure. You should stay firm if the quote is reasonable and there is no possibility of further reduction. Offer the customer time to think it over and call after a few days to check. Always stay pleasant and agreeable and do not show anger, arrogance, sarcasm, disappointment and bad attitude. All these will only harden the customer's position and will also lead to a negative opinion of the painter.
- Material bought by the customer: Some customers will insist that they will procure the material and the painter will be paid only for labour. If this method is acceptable to you, be cautious in estimating the quantities required. Dispute and disappointment arise when the customer finds that the quantities ordered are excessive. Similarly, advise the customer on the right quality of paint to be procured. Do not push a 'specific' brand, it will make the customer suspect ulterior motives. It is important to be neutral and committed to the customer's benefit in selection of paints and accessories. In this type of contract, it is important to give the customer an idea of the time it will take to complete the job. The painter should know that completing each assignment to the fullest satisfaction of the customer could potentially lead to several new assignments. Therefore, establishing a good and healthy relationship based on mutual respect and trust is very critical to growing the business.

2.2.5 Important Decisions to be Confirmed Before Starting the Painting

Disputes and souring of relationships happen when customer and painter differ in their understanding of important decisions. Therefore, it is ideal if you carefully record key points agreed upon, on a sheet or a notebook and get the customer's initials in confirmation. Leave a copy with the customer for their future reference.

- Exact shades: Shade no., from which company's shade card, finish (gloss / semi-gloss / matt) to be written down. In case textured paint or designs are involved, that needs to be written down as specifically as possible. Finally, the painting system to be followed on each surface has to be noted down. It is also advisable, wherever possible, that the you get 'match pots' of the various shades and demonstrate actual shade patches on the surface for the customer to get a feel of how the colour will look on the final surface.
- **Time lines:** Date on which the job will commence and the date on which the job will be completed, and all the painters will exit the site. Care must be taken to make reasonable estimate of time and provide for unforeseen circumstances like absenteeism of painters, assistants, etc. However, if despite all these the work gets delayed for whatever reason, be honest and inform the customer on the actual causes that resulted in the delay.
- Total costs and payment schedule: This is often an area of dispute and misunderstanding. Therefore, you must get the customer's confirmation on the costs and payment schedule. Once this is agreed upon, do not keep asking for advance or payment outside the schedule of payment as this can be a source of irritation for the customer.
 - It is possible that the customer may want an additional area to be painted. In such a case, get the agreement of the customer on the additional cost and additional time involved. Overlooking both these implications will certainly lead to dispute and disagreements.
 - Requests such as change in colour, specifications, etc. must be accommodated if found reasonable and can be managed. The customer should be told of the additional costs and delays, if any and agreement and confirmation obtained.
 - Sometimes the customer may request stoppage of work (visitors, functions, sickness, etc). A painter should be sensitive to the situation and co-operate keeping in mind the customer's convenience. However, you should note down the time lost due to this and get the customer's agreement.

2.2.6 Type of Substrates —

While assessing the job to be done, identify the different types of substrates to be painted. Masonry walls and ceilings, wooden surfaces such as doors, windows and partitions, metal surfaces such as storage cabinets, gates, etc. Estimate surface area to be painted for each of the substrate.



Fig 2.3 Wall painting (youtube.com), painted doors (Bluedoorpainting.com) and Painted wrought iron gate (gatesandrailingspreston.co.uk)

2.2.7 Customer Requirements - Colour, Finish, Quality and Cost

It is important to correctly understand the customer's requirements of colours for each wall, ceiling, door, window, etc. of the house. You will have to help the customer choose the colours with the help of a fan deck / shade card. Explain to the customer that light colours would make the area look larger while dark shades tend to make the area look smaller. Also help the customer choose colours by explaining the moods associated with different colours.

Where possible, show the customer books with effective and aesthetic colour combinations in various areas of a house.

- The type of finish the customer requires needs to be ascertained. The customer should know that he can choose from matt, semi- gloss/sheen and glossy finish. Ideally you should have panels to show different finishes.
- Explain the different qualities of paints on offer and their relative merits and demerits. For example, the customer has a choice of finishes for interior walls, such as distemper, emulsion and premium emulsion. Explain the cost differences and the features of each paint to help the customer decide on what suits him best. It will be of help to the customer if you carry Product Data Sheet of the products for the customer to verify the relative features.
- An important consideration for the customer is the total cost of the painting job. You may have to explain the costing for each substrate so that the customer understands the total cost involved. Emphasise that this cost is an estimate and that the actual may vary by 5 to 10% depending on the actual material consumed and man hours spent.

2.2.8 Painting Sequence

The sequence of painting must be discussed and approved by the customer. The sequence depends on the number of painters engaged and time constraints imposed by the customer. Under normal circumstances, the sequence is from deep inside towards the outside. However, the customer may want the kitchen, or a particular bedroom to be finished first so that the family can continue staying at home

While painting is being done. The painter must be sensitive to this sequence and strictly adhere to the
customer's requirement. Assess the quality of the surface to be painted. The quality of the surface
plays an important part in the performance and appearance of the paint. Also, the condition of the
surface will determine the painting system to be used. So, assessment of the surface to be painted is a
very important first step before actual painting



Fig 2.4 Interior and Exterior Painting (diynetwork.com, burnettpainting.com, dir.indiamart.com)

- 2.2.9 Surface Flaws -

DEFECT	WILL LEAD TO	CORRECTIVE ACTIONS
Dirt and dust on the surface	 "Bittiness" with small dents and rough finish Loss of gloss in glossy paints 	 Thoroughly clean the surface prior to painting Remove all loose particles from the surface
Grease or oily substance on the surface	 Cissing or tiny craters appear on the painted surface Possible flaking and peeling 	 Thoroughly clean the surface with soap solution and water Let it completely dry Apply a primer as a barrier coat
Uneven surface - crack and/or dents	Poor and uneven finish	 Fill the cracks and dents with a crack fillers. Level the surface and sand until, the surface is even and smooth
Water seepage / moisture in the surface	Algae and fungus growth	 Identify the source of water and seal the leakage Let the surface dry thoroughly Clean the surface thoroughly before applying paint
Highly absorbent surface	Patchy appearance	The surface needs to be sealed with an appropriate primer sealer and then painted
Insufficiently cured plaster/ concrete	Efflorescence - Crystallisation of alkaline material on the surface	 Sand the surface clean of the efflorescence Ensure moisture content is below 6% Seal the surface with an alkali resistant primer

Table 2.2 Surface Flaws

−Notes 🗐		

You must make a careful estimation of time and manpower required based on the following:

- The total area to be painted:
 - Interior walls
 - Ceiling
 - Doors
 - Windows
 - Exterior walls
- Any other surface to be painted
- The quality and condition of the surface
- The painting system being applied complete system or over coating
- The number of painters you will engage depending on the customer's time lines
- Customer's preferred painting sequence
- Manpower availability

2.2.10 Estimates



Fig 2.5 (SaharanPurweb.in)

To estimate the material required, you need to estimate the area to be painted. For this, the following thumb rule may be used:

Total wall area = (length + breadth X 2) X Height – total area of windows and doors

Example:

Let us take a room of 12ft X 15ft and height from floor to ceiling is 8ft. The room has two windows 4ft X 3ft each and a door 6ft X 3ft.

Wall painting = (12ft+15ft) x 2 = 54ft. 54 x 8 (Height) = 432 ft. Less door and windows: 432-42 = 390 sq. ft.

Ceiling area to be painted = $12 \times 15 = 180 \text{ sq. ft.}$

Windows = $4 \times 3 = 12$. Two windows $12 \times 2 = 24$ ft. Door = $6 \times 3 + 18$ ft. Total doors and windows = 42 sq. ft Based on these surface area measurements, work out the material requirement. For example, if the emulsion for walls covers 100 sq ft / litre per coat you will need approximately 8 litres for a two-coat job. Similarly, based on the covering capacity of the product as given by the manufacturer in their product data sheets and your own experience and condition of the surface, estimate all material requirement – putty, primer, brushes, rollers, putty blades, thinners for enamels, sand papers, emery paper, cleaning cloth, masking tape and so on.



Fig 2.6 clipart-library.com

2.2.11 Payment Schedule

Once the total cost for the work is agreed upon, discuss the payment schedule in very clear terms. The payment schedule may look something like this:

- Advance for material etc.: 40%
- On completion of 50 % of the work: 20%
- On completion of 80% of the work: 20%
- On completion of 100% of the work and exiting the premises: 20%

Of course, this may vary but the idea is that it must be clearly scheduled and agreed upon. It is advisable that this payment schedule is written down and both the customer and the painter sign and retain a copy each.

UNIT 2.3: Conduct and Communication During Painting

Unit Objectives



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

1. Manage customer interaction in the course of the job and ensure effective execution.

2.3.1 Customer Expectation of Discipline, Cleanliness and Hygiene During Painting

The painter must conduct himself with utmost responsibility in the customer's premises. An indicative, but not exhaustive list of do's and don'ts is given in the table below. Not only should you strictly adhere to these but also ensure that your assistants are strictly instructed on expected behaviour.

DO	DON'T
Speak politely and respectfully to all the people in the customer's premises always	Do not raise your voice or speak loudly
Make sure your personal hygiene is of acceptable standards — have bath and wear clean clothes every day	Do not use your mobile telephone and carry on conversations of a personal or frivolous nature
Make sure the area of work and tools are cleaned thoroughly and neatly before leaving the premises for the day	Do not smoke or chew paan inside the premises
Every day inform the customer of your work plan for the next day. This will help the customer to keep the area free for painting	Do not take photographs of any part of the house without obtaining the permission of the customer
Please knock at the door and enter only when permitted to enter any room	Do not use the customer's toilets or sleep in the premises without their express permission. Do not use the customer's telephone or any appliance.
If carrying your food, please ask the customer to indicate where you can have your food within the premises. Please be careful that the food you carry is appropriate and not offensive to the customer	Do not use obscene or vulgar words/expressions with your colleagues or anyone else in the premises

Table 2.3 Customer Expectations

− Notes		

2.3.2 Safekeeping of Customer's Valuables

It is your responsibility to protect the customer's assets and properties from any damage due to the painting work in progress. All valuables such as clocks, paintings, curios etc. must be carefully removed, properly covered and stored. Similarly, all furniture and appliances must be covered to protect from paint spills. Use masking tape to protect surfaces that should not be painted. Paper must be spread on the floor to collect dust and paint spills while sanding and painting. Extreme care must be taken to protect the customer's assets. It may be advisable to request the customer himself/themselves to shift high value items from the painting area prior to painting.

In some jobs, the customer may not be present in the premises and may leave it in the care of the painter for the duration of the work. In such situations, be aware that you have a responsibility for security of the premises and its contents. Take adequate precautions against thefts or damage. When closing after work every evening ensure that the place is left clean, electricals are switched off, all taps shut, and the doors and windows securely locked.

If any damage occurs inadvertently or due to negligence of the painting team, promptly inform the customer and own up responsibility. If you can make good the damage, offer to do so. Otherwise let the customer decide after seeing the damage. Do not try to hide a damage, make small of it or evade responsibility. Such conduct will leave the customer quite upset.

2.3.3 Safety and Security

While the safety precautions to be followed are described in a separate chapter, you will need to take extra care while working in a house which is inhabited. Ensure that paints, thinners and other items are kept securely closed, out of reach of children. Use only secure properly earthed electrical fittings, disconnecting them after every use. When carrying out the paint job in the kitchen disconnect gas/heater connections and ensure there is no open flame source. While using equipment such as compressors and spray guns stay within the rated power of the premises, after adjusting for appliances already in use

2.3.4 Working with Consultants

In some jobs there may be an architect or an interior consultant advising the client. This makes your job somewhat easier as consultants will be familiar with painting work. They would state requirement clearly and have an idea of costs. When the work is in progress, you will generally receive all instructions from the consultant. If any direct instruction is received from the client, inform the consultant as well and keep them in the picture so that there is no misunderstanding. This is especially necessary with instructions and changes involving additional costs as the consultant will have eventually approve your bills

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UNIT 2.4: Closing Activities

Unit Objectives



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

1. Enumerate tasks to be carried out on completion of the job and to ensure full customer satisfaction

-2.4.1 Closing Activities

The most important thing is to thank the customer sincerely and ask to be called should there be any problem or requirement. A clean and gracious exit enhances the customer experience and gives them confidence of after sales service.

- The painter must engage sufficient manpower to clean all the painted areas of spillages and any other stains or rubbish. This must be thorough. All the masking tapes, papers on the floor, etc. must be removed and put in the dustbin.
- A general cleaning of the entire premises including doors and windows, grills, glass panes, open shelves, electrical switches, lights, fans, bathrooms, taps and faucets should be carried out using trained housekeeping personnel. Some of these jobs may not be linked to painting. However, this is generally expected as a part of the painter's job. A thorough cleaning is also helps bring out the full appeal of the paint job and showcase it during the final inspection by the customer. A good final impression will translate into higher customer satisfaction.
- All the furniture and other wall mounted items that were moved during painting must be restored to their respective places with the guidance of the customer.
- If the material belongs to the customer, all material such as brushes, rollers, etc. must be cleaned and returned to the customer. Paints or accessories remaining must all be packed properly and handed over to the customer.
- The painter should ask the customer to settle all pending payments and give a receipt, where applicable and necessary

2.4.2 Touch-ups and Repairs

After the painting job is completed, the customer will generally add finishing touches to the area. This may include adding light fixtures, curtains, tapestries etc and reupholstering or rearranging furniture. New paintings and pictures may also be mounted on the walls. These activities may result in minor damages to the painted surfaces. In such an event, the painter would be expected to come back and do minor touch ups to rectify these damages and also correct any other defect that may have come to the customer's notice.

It is a good idea to schedule this visit immediately after finishing the painting work. A week after the job is completed may be a good time to carry out touch-ups.

2.4.3 Staying in Touch

A good painting job rarely requires the painter to come back until the next cycle of painting. Even so, it is a good idea to find ways of staying in touch with the customer from time to time. If any new business arises from positive reference by the customer, acknowledge it and thank the customer. Otherwise check from time to time if they are happy with the work. This will ensure that you will be the first to get called if a new requirement arises in future.

Tips



- 1. Keep updated knowledge of the products beings offered by different companies, it's cost and performance.
- 2. Dress appropriately while visiting the customer and carry required tools and shade card for providing a time and cost estimate to the customer.
- 3. Communicate clearly but politely.
- 4. Re-phrase customer's requirement for mutual understanding.

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Exercise



Ar	swer the following questions:	
1.	Discuss the mind set of a customer for decorative painting.	
2.	Describe the scheduling process for visiting the potential customer's site.	
3.	List the probable issues before starting the painting work.	
4.	Explain types of substrates.	
w	rite a short note on:	
a.	Estimates	
b.	Painting sequence	
	Working with consultants	
d.	Touch up and repairs	









3. Paint the Wall and/or Doors and Window Surfaces Manually

Unit 3.1 - Cleaning and Sanding the Surface

Unit 3.2 - Types of Primers

Unit 3.3 - Application of Finish Coat



Key Learning Outcomes 👸



- 1. Explain the different cleaning and surface preparation steps for interior and exterior masonry surfaces, metal surfaces and wooden surfaces.
- 2. Identify and select the right primer and topcoat type for the given substrate and its method of application.
- 3. Prepare the primer, putty and paint for application and select the appropriate application process for each.

UNIT 3.1: Cleaning and Sanding the Surface

Unit Objectives



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

- 1. Check the surface to be painted and identify the method of cleaning.
- 2. Employ the cleaning method appropriate to the substrate and the level of cleaning required.
- 3. Identify the quality/ grade sand paper to be used appropriate to the surface.

- 3.1.1 Surface Preparation

Surfaces must be prepared before paint is applied. The objective of surface preparation is to create adhesion. Adhesion becomes an even more critical condition when paint is applied in corrosive areas. Modern day paints require a clean and roughened surface to achieve long term durability. Inspection for surface cleanliness is a continuous process and should take place at least 3 times during the painting process.

- Before any surface preparation activity
- After surface preparation, before coating begins
- Between each application of coating in a multi-coat system

Surface preparation is the essential first stage treatment of a surface before the application of any paint. It is generally accepted as being the most important factor affecting the total success of a paint system. The performance of paint is significantly influenced by its ability to adhere properly to the surface. It includes assessment and inspection of surface condition, including surface defects and removing

- Dirt, dust and loose particles
- Fungus, mild dew, algae growth
- Residues of oil, grease and soil
- Residues of (nonvisible) chemical salts, which can induce corrosion after coating
- Rust on the surface, which interferes with the coating bonding
- Loose or broken mill scale resulting in early coating failure and tight mill scale resulting in later failure
- Anchor pattern (formed by surface preparation actions) sharp ridges, burrs, edges, or cuts from Mechanical cleaning equipment, which prevent adequate thickness of coatings over the irregularities
- Surface condensation which, if painted over, may result in blistering and delamination failure
- Old paint that may have poor adhesion or may be too deteriorated for recoating

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- 3.1.2 Cleaning Methods

Adequate cleaning of surfaces, including masonry, concrete, aluminum, wood and steel is essential to achieve proper performance of the selected paint system. The nature and condition of the surface to be prepared and painted affects the degree of surface preparation required. A severe environment, marine or chemical, normally requires a higher degree of cleanliness to ensure good performance of the paint system. A milder environment—with less pollution—will allow better performance of the same paint system or the same performance when applied to a lesser degree of surface preparation.

Techniques available for surface preparation include:

- Sanding
- Solvent cleaning
- · Hand tool cleaning
- Power tool cleaning
- Flame cleaning
- · Acid pickling
- Blast cleaning, using shot or grit
- Water jetting, using water only
- Wet abrasive blasting, using water with injected abrasives
- Chemical pre-treatment

Sanding: For sanding the most commonly used abrasive material is sand paper. Sanding can be done either manually or with electrically operated equipment.

	DIFFERENT TYPES OF SAND PAPER					
Aluminium Oxide	Used mainly for wood and metals and is a hard-synthetic abrasive					
Silicon Carbide	Used for masonry surfaces and between coats of paints					
Emery	Natural abrasive with fine grains and used on metals					
Garnet	Natural abrasive used for bare wood					

Table 3.1 Different Types of Sand Paper

Sandpaper is available as paper sheets, backed by cloth and disks. It is graded on the coarseness; the lower grade is coarse and as thenumber goes higher the coarseness reduces and the grains get finer. So, it is important to choose the right sanding paper to achieve best results in surface preparation.







Fig 3.1 (i) Metal, wood and wall sanding

Metal surface sanding:

Use emery paper (No.150) to thoroughly sand the surface. After thorough sanding of the surface use mineral turpentine to clean the surface of dust and loose particles. NOTE: Wait for the surface to completely dry.

Wooden surface sanding:

While sanding wooden surfaces care must be taken to sand along the grains and not across. Wooden surfaces must be sanded in phases – changing the coarseness of the sand paper from coarse to medium. (60/80/100/120)

Wall sanding:

Masonry surfaces and previously painted wall surfaces must be sanded using a coarse silicon carbide sandpaper (No.80) and finally must be sanded using a fine grade of sand paper like 180, 220 etc.

NOTE: At regular intervals, dust the surface and fold the sand paper for a newer sanding side; replace the sandpaper when the grains have worn off.

Solvent Cleaning: For simple oil or grease stains in walls, cleaning with vinegar or soap solution is sufficient. For stronger and stubborn stains, especially on metal surfaces, chemicals are available to clean the surface



Fig 3.1 (ii) Solvent cleaning with a soft swab

Chemical paint stripping: Solvents such as kerosene, turpentine, naphtha, mineral spirits, xylol, etc., clean the metal by dissolving and diluting the oil and grease contamination on the surface. Inorganic materials such as chlorides, sulphate, weld flux, and mill scale are not removed by organic solvents. The last wash or rinse should be made using a clean solvent to remove the slight film of oil or grease that may be left on the surface. This film, if left in place, may interfere with the adhesion of the coating to the surface



Fig 3.1 (iii) Use of Alkaline cleaners

Hand and power tool cleaning: Hand tool cleaning is a method to prepare surfaces using non-powered hand tools. Hand tool cleaning removes all loose mill scale, rust, paint, and other detrimental foreign matter. Adherent mill scale, rust, and paint are not generally intended to be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife.



Fig 3.1 (iv) Hand cleaning



Fig 3.1 (v) Tools used in hand cleaning

Power tool cleaning: Power tool cleaning is a method of surface preparation using power assisted mechanical cleaning tools. These tools are essentially like the tools used for hand tool cleaning, but a power source, such as electricity or compressed air, is used. Power tools are ideal when the area of the surface to be prepared is very large. Power tool cleaning is frequently used in maintenance operations to remove loose mill scale, rust, and paint. Modern power tooling has been developed not only to achieve a good standard of surface cleanliness and profile but also to provide near total containment of all dust and debris generated. New equipment is now available to use percussive reciprocating needles, rotary abrasive coated flaps and right-angle grinders, all within a vacuum shroud to enable on-site surface preparation to be environmentally acceptable.





Fig 3.1 (vi) Rotary Wire Brush

Rotary Grinder

Needle Gun

Flame Cleaning: This method uses an oxy/gas flame that is passed over the steel surface. The sudden heating causes rust scales to flake off as a result of differential expansion between the scales and the steel surface. All loose rust can then be removed by scraping and wire brushing followed by dust removal. Flame cleaning is not an economical method and may damage coatings on the reverse side of the surface being treated. Also, the technique is not very effective in removing all rust from steel, so it is rarely used.

Blast Cleaning: Sandblasting of concrete surface is resorted when the texture of the wall needs change or thorough removal of the previous paint system is required on a large area. Sandblasting is usually done on exterior walls. Blast cleaning is more often used for protective coatings and industrial applications.

Some of the methods of blast cleaning are:

- Centrifugal blasting
- Sand-injected water blast
- Slurry blast
- Wet abrasive blast
- Dry abrasive blast
- Dry grit blast cleaning





Fig 3.1 (vii) Manual abrasive blasting

The most generally established method of surface preparation for the application of coatings is by dry grit blasting as defined below. A highly-concentrated stream of small abrasive particles projected at a surface removing rust, mill scale, or other contaminants and creating a rough surface good for adhesion. The surface is abraded through the high-velocity impact of abrasive particles. In preparing surfaces for painting by blast cleaning, rust, mill scale, and old paint are removed along with some of the base surface.

3.1.3 Pretreatment Methods

Chemical Pretreatment: For previously unpainted metal surfaces, an alternative to mechanical surface preparation is chemical pretreatment. It prepares the surface and enhances the adhesion of the coating to the surface thus improving its resistance to corrosion. Pretreatment involves passing the job through multiple baths containing various chemicals for cleaning and treating the component. A phosphate coating is deposited on the metal to enhance corrosion protection and improve adhesion of the subsequent coating.

Other pretreatment methods

A three-in-one chemical combining degreasing and phosphating in a single chemical, is also being used. The performance in this case is not as good as a multi stage system. It is mainly used for repainting structures and components which cannot be pre-treated through a multi stage system.

Masking: It is done when only a specific area of the surface must be exposed to a process. Masking tapes, sheets are used to mask areas such as switch boards, metal work, borders, handles, etc. Old newspapers with masking tape attached at the edges is a cost-effective masking process for large areas. Parts of surfaces which are not to be coated are masked. Masking is generally carried out for tubular components to prevent water/ chemical solution entering the component. The masking is this case is generally done using metal/rubber/plastic plugs.



Fig 3.1 (viii) Masking with tape (vancouversun.com and listinspired.com)



Fig 3.1 (ix) Masking with sheets (house-painting-info.com and prettyhandygirl.com)

Primer Application: For a good performance of the paint system, it is important to have a smooth and even surface. The surface should not have pores that will absorb paint. And the surface should provide good adhesion to the paint. All this is done by the primer. A good primer fills all surface imperfections and provides adhesion to the surface and to the finish coat. Application of paint without a primer coat can lead to performance problems such as cracking, peeling, flaking, etc.

Primer Application: For good performance of the finish coat, it is important to have a smooth and even surface. The surface should not have pores that will absorb paint. And the surface should provide good adhesion to the paint. All this is done by the primer. A good primer fills all pores and provides adhesion to the finish coat. Application of paint without a primer coating can lead to performance problems such as peeling, cracking etc.

UNIT 3.2: Types of Primers

Unit Objectives



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

- 1. Differentiate between the various primers available
- 2. Choose the right quality of primer for the given substrate and performance expected
- 3. Identify the correct mixing procedure and adjust application consistency suitable for the application

Solvent based primer: Most commonly used for metal and wooden surfaces. For metal surfaces (ferrous metal surfaces), red oxide primer is commonly used. Red oxide primer protects the surface from rust and corrosion. There are higher grades of primers for metals depending on atmospheric conditions such as red oxide, zinc chromate primer, etc. Red oxide primer is thinned with mineral turpentine (MTO). For wooden surfaces, specially formulated wood primers are available. Wood primers seal the pores in the wood and prevent resinous material from oozing out of the wood.

Wood Primers are available in two colours - White and Pink. Wood Primers are also thinned with mineral turpentine (MTO). Solvent based primers are also used for new masonry surfaces and solvent based primers have excellent alkali resistant properties. They effectively seal all the pores and provide good adhesion to the top coat. Care must be taken that the primer coat is fully dried before applying the finish coat. Solvent thinnable masonry primer is thinned with mineral turpentine (MTO)

Water based primer: These are extensively used for masonry surfaces, both interior and exterior. They are quick drying and offer the advantages of sealing pores, filling cracks and providing adhesion. This coat is also used as an undercoat to achieve better opacity when the existing colour is dark and is being changed. Tinting the primer is done for this purpose. This primer is thinned with water. While painting on existing pre-painted surface which is clean and free of loose particles or flaking paint, primer application may not be necessary. However, it is still recommended to apply primer to improve performance and durability of paint.

Primer application: It is applied using a brush or spray gun. Painters must check the Product Data Sheet of the manufacturer for thinning ratio and recommended interval between two coats, where necessary. After each coat of primer, the surface needs to be sanded to achieve smoothness and an even surface. The sanded surface must be cleaned thoroughly and completely dry before application of the next coat.

Putty application: Putty is an elastic material in a paste like consistency and is used as a filler cum primer to smoothen and level the surface. Ideally, putty is applied on a primed surface. The surface must be free of dirt, dust, loose particles and any kind of contamination. The surface may be lightly wetted prior to putty application for ease of application.



Fig 3.2 Putty application

Thin, even coat of putty is applied and left to dry for at least 12 hours (over-night). Putty must be applied in a bottom to top direction in even strokes. This method is to avoid material wastage and spillage. After the wall is levelled with putty, and the putty has completely dried, the surface must be sanded. All loose particles, dust, etc must be cleaned thoroughly.

Mixing paint: After the surface is thoroughly cleaned, sanded, levelled with putty and primed with an appropriate primer, it is ready for application of the finish coat. The following steps must be taken in preparation for painting.

- The paint in the can must be stirred well to ensure there is no settling or lumps in the paint. In solvent-based paints, if the container is not kept air-tight there may be skin formation. This must be removed.
- After stirring thoroughly, if necessary, the paint must also be sieved to ensure that the it is free from any particles or lumps.
- Paint is usually transferred in small quantities from the can to another can for application. This smaller quantity is adjusted for viscosity by mixing as recommended in the Product Data Sheet by the manufacturer.

Adjust the consistency: The paint supplied by the manufacturer is usually not in a consistency for application. Therefore, the consistency needs to be adjusted to suit the application method. The application consistency depends on the method of application. The manufacturer's Product Data Sheet gives the recommended mixing ratio and the recommended thinner for application by brush, spray and roller.

While thinning with water, care should be taken on the quality of water. In places where the water is known to be 'hard', care should be taken to use water free of salts or add water softeners. (However, most reputed paint companies' products have provided for the problem of hard water in their formulations and no additional 'softeners' need to be added).

After mixing the paint for achieving application consistency, apply on a small trial area to check if the desired consistency has been achieved for application. If not, fine tune the consistency by adding more water / solvents, as the case may be.

Mixing of two pack paint systems: A two-pack system – a base and hardener –is one where two separately packed components are mixed just before painting. The base and hardener ratio must be maintained very strictly and as specified in the Product Data Sheet. In mixing a two-pack system there are two critical factors:

- **Mixing ratio** is the ratio of base to hardener and usually product packs come in the recommended ratios. Both pack of the component should be mixed in a can and stirred well.
- **Pot life** is the time within which the paint must be applied or else the reaction between base and hardener will start and the paint will set in the can itself.

UNIT 3.3: Application of Finish Coat

Unit Objectives 6



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

1. Describe the parameters for selection of an application method and employ the correct method of application for a given surface.

3.3.1 Methods of Application for Finish Coat -

Finish coat is the final coat of paint that completes the painting system for protection and adds beauty to the surface. Finish coat application is very important as this determines the aesthetic appeal of the asset.

For decorative painting, brush and roller application are most common. Spray application is the most widely used method for industrial and protective coatings. One or more of the following may influence the choice of the method used.

Size and type of job	Bigger jobs are more likely to use more equipment and more sophisticated equipment. The type of job (defined by the specification) will determine what application method is required or most suitable.
Accessibility of the areas to be coated	Some projects (e.g., elevated water tanks, radio/TV masts) will place restrictions on the type of application equipment used for practical reasons.
Configuration of areas to be coated	Complex areas may be difficult to coat adequately with spray equipment. Large flat areas (e.g., ships, tanks, etc.) are mostly suited for spray application. The use of brushes and rollers rather than spray equipment is preferred if there are areas or surrounding environment that could be damaged by overspray.
Type of Coating	Many modern coatings, particularly high-solids and high-build coatings, are designed for spray application. Brush or roller application is not recommended and should only be used when spray application is not possible or when small areas, such as repair areas, are to be coated. Application method depends on the type of coating being used. Some specialized coatings may be restricted to a specific application method. Coatings that are 100%-solids, for example, can only be applied using special equipment such as heated plural-component airless spray pumps or by mechanical methods, such as by trowel or by hand.

Table 3.2 Parameters for Selection of an Application of Finish Coat

Conventional liquid paints: Applied by brush, roller, or spray - should generally be applied in multiple passes, thin enough to allow proper evaporation of the solvents as the paint dries and cures. Paints used on porous surfaces should be able to penetrate and fill the surface voids in the substrate and should be thinned if necessary to ensure penetration.

Brush application: Brush application is the oldest painting method in common use today. The advantages of brush application include the paint's good penetration in the surface pores. Brush application is a slow process and a relatively expensive one. On large surfaces, brush application does not produce a sufficiently uniform and good-quality film.

Roller application is often preferred to brush application because of the speed of the method - the paint is rolled onto the surface. The paint roller is primarily a paint application tool for the application of top coats on large and smooth surfaces and is not recommended for use with a primer. These days it is common to see paint rollers with designs on them as illustrated in the picture below.



Fig 3.3 (i) Variety of paint brushes and paint application with brush (homedepot.com, diynetwork.com)



Fig 3.3 (ii) Roller application and Anatomy of a Roller



Fig 3.3 (iii) Variety of rollers for texture painting



Fig 3.3 (iv) Rollers with patterns (1.bp.blogspot.com &img.etsystatic.com)

Spraying: Spraying is the most commonly used painting method for large surfaces today. Different types of sprayers have been developed for various paint applications. In spray application, a liquid paint is transformed into a fine droplet spray. This is called atomisation, wherein droplets with high energy come out. It is a physical mechanical process. These atomised droplets are seen as a spray cloud. Atomisation Energy (AE) and Coating Flow (CF) are important components of spray.



Fig 3.3 (v) Spray guns

• Plural component spray guns have two or more suction hoses for the base and hardener respectively, which are then mixed at the tip of the spray nozzle, this eliminates the problem of using up the two component paints within the pot life.

- $\bullet \ \ Coating \ Flow \ means \ volume \ of \ paint \ coming \ out \ from \ spray \ equipment. \ It \ is \ expressed \ in \ ml\ /minute.$
- The air pressure/ bell or disc speed, fan width/ shaping air and paint flow rate are important application parameters to be controlled for consistent quality of deposition of the coating. These are more important in the application of metallic/ pearl mica pigment containing coatings.
- The metallic/ pearl mica pigment orientation and hence colour is influenced by the evaporation rate of
 the solvent from the deposited film. The evaporation rate is dependent on the booth conditions like
 temperature, % relative humidity, air velocity, etc. To achieve a consistent orientation and colour of
 the metallic/ pearl mica containing paints, the thinner composition is determined by the "Foil Solids".

BRUSH APPLICATION	ROLLER APPLICATION	SPRAY GUN APPLICATION
 The paint must be thinned as recommended by the manufacturer and strained through a clean cloth. 	 Roller is ideal for painting large, flat surfaces. However, even when using a roller, the edges of the walls must be brush applied first. 	 Make sure the paint is thinned as per the manufacturer's recommendation and strained to avoid clogging.
 For large, flat wall areas a 4 or 6inch brush must be used. 	 Pour the paint in a flat tray or vessel for full access of the roller. 	Apply the paint from a distance of a foot.
 Brush must be dipped in paint to cover up to half the height of the bristles, but care must be taken not to carry excessive paint for it will cause dripping. 	Dip the roller in paint to ensure that the roller has picked up sufficient paint.	Hold the gun straight, perpendicular to the surface
 Tap the brush on the rim of the paint can to shed the excess paint 	 Roll up and down in sweep- ing long motion with a slight overlap. 	First spray a sample on a panel or on a sampling surface before actual painting
 Paint must be applied in even strokes vertically first and horizontally next. It must be finished with vertical strokes. 	Apply the paint with a slight pressure.	While applying paint avoid lighter areas by overlapping.
Overbrushing on the same area must be avoided to avoid brush marks.	 Without reloading on the paint, go over painted surface lightly to smoothen the paint. 	The tip of the spray gun nozzle may get clogged so clean the tip with a cloth at regular intervals.
 The first coat must be allowed to dry for 4 to 6 hours or as recommended by the manufacturer before applying the second coat. 		

• In case a dark colour is chosen a third coat may be necessary.	
 When painting involves two colours, for e.g. white for the ceiling and a slightly darker colour for the walls, paint the lighter colour first. It is easier to cover the lighter colour with the darker colour in the edges when painting the darker colour. 	
The surface to be painted must be clean and dry and protected from dust. The area to be painted must be clean and well ventilated.	
 Door / window trims must be first 'cut in' meaning narrow strips and edges must be first painted with a narrower paint brush, say 1" brush and then the rest of the larger flat surface with a 3" or 4" brush. 	

Application of finish coat: Finish coat completes the painting system and is the visible skin of the décor. The entire beauty of a home or an object rests on the quality and application of the finish coat. The beauty of the finish coat will depend on:

- The quality of the paint system
- The skill of the painter
- The quality of surface preparation

Prior to application, the painter must ensure that the place is clean and well ventilated. The surface to be painted must be completely dry.

Tips 🖳

- 1. A clean surface free from surface contaminants improves the paint adhesion and durability of the coating.
- 2. The selection of surface preparation method is dependent on the substrate, the nature of the contaminants and service life expected.
- 3. The method of application is dependent on the shape, size and nature of the substrate.

Exercise 🔂

Answer the following questions:	
1. Explain the process of surface preparation.	
2. Explain the pretreatment methods.	
3. What is putty application?	
4. Explain the method of finish coat application.	
Fill in the Blanks:	
1. The entire beauty of a home or an o	bject rests on the quality and application of the
·	
2. The advantages ofpores.	include the paint's good penetration in the surface
The paint in the can must be paint.	well to ensure there is no settling or lumps in the
4. Red oxide primer is thinned with	.









4. Paint the Wall and/ or Doors and Window Surfaces Using Machines

Unit 4.1 - Cleaning and Sanding the Surface

Unit 4.2 - Types of Electric Sanders



-Key Learning Outcomes 💆

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

1. Employ the right equipment for cleaning, sanding and paint application.

UNIT 4.1: Cleaning and Sanding the Surface

Unit Objectives 6



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

- 1. Employ the equipment suitable for efficient cleaning of the surface.
- 2. Employ the appropriate electric sander for masonry walls and wooden surface.

- 4.1.1 Cleaning of the Surface -

The steps involved in painting the wall and/or doors and window surfaces using machines is essentially the same as painting manually except that major processes like cleaning, surface preparation and paint application are done using machines. By using specific purpose machines for various purposes, enormous time and labour and therefore cost is saved.

Technology has enabled time and labour-saving machines in the areas of

- Cleaning and surface preparation
- Stirring and mixing paints
- Application of paints

There is a large variety of cleaning machines available in the market. From simple household vacuum cleaners to heavy duty steam cleaners to clean masonry surfaces, floors, tiles, etc.



Fig 4.1 (i) Wall steam cleaning machine and pressure washing a brick wall

For thorough and simple cleaning there are cleaning machines with scrubbers (thick brushes) mounted on a rotary wheel. These scrubbers thoroughly clean the wall and suck in the dust into a dust bag. Thus, the working space remains dust free and workers do not suffer the discomfort of dust inhalation. At the other end, there are high pressure water washers mainly used for exterior surfaces. These highpressure washers have a motor, water pump, pressure hose and a trigger switch. These washers mostly operate with gas or compressed air as power source. Use of electric motors is not practical while cleaning exterior surfaces. The high-pressure water washers are dangerous equipment and need to be used with extreme care. They can cause serious injury if directed on a person and can damage the surface if the nozzle is closer than the specified distance.

with gas or compressed air as power source. Use of electric motors is not practical while cleaning exterior surfaces. The high-pressure water washers are dangerous equipment and need to be used with extreme care. They can cause serious injury if directed on a person and can damage the surface if the nozzle is closer than the specified distance.

• Sanding: Traditionally sanding the surface, whether masonry, wood or metal, has been a tedious manual process. It is a time-consuming process and especially difficult in large expanse of surface. Technology has come up with a solution in the form of the electric sander which is efficient, fast and ensures uniformity.

Electric sanders have an important added benefit of dust extraction as part of the sanding system. Sanders are basically power tools with abrasives attached and are powered either by electricity or compressed air. There are several types of electric sanders to suit different surface requirements.



Fig 4.1 (ii): Wall sanding with electric sander (doityourself.com)

The key components of an electric sander are:

- Sanding disc: Sanding discs are abrasives on a paper / cloth or other synthetic material and come in different sizes (diameters) and also in different sizes of grit (grains sizes). Sanding discs come with velcro to be fixed to the rotating wheel. The discs have holes in them to collect the dust produced by the sanding process.
- Electric motor: The electric sander has a 1.2 KV electric motor to power the disc and the dust collector.
- **Dust collector:** Like a vacuum cleaner, the electric sander sucks all the dust generated by the sanding through the holes in the disc into a dust bag.
- **Handle:** Handles come in different shapes to suit customer preferences. The most common are the palm grip and long handle. Electric sanders also come with D handles.
- **Trigger switch:** The trigger switch is to switch on or off the rotating disc. Some sanders also have speed control radials to change the speed of the sanding.

UNIT 4.2: Types of Electric Sanders

Unit Objectives



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

- 1. Identify different types of electric sanders and it's use.
- 2. Describe use of blasting for masonry walls.
- 3. Employ equipment/ tools for proper mixing of paint.
- 4. Define spray application and the different types of spray application, it's characteristics and use.
- 5. Define a two-component paint, it's mixing ratio and application.

4.2.1 Operation of Electric Sander machine

There are several types of electric sanders to suit every requirement. However, the three most popular types are:

- Belt sander
- Orbital sander
- Random orbit sander







Fig 4.2 (i) Orbital sander, belt sander and random orbit sander

device most commonly used for sanding wood. An orbital sander comprises a motor that powers a rotating wheel. Sanding discs are attached to the sanding roller drums. The belt is made of wheel. The orbital sander can be abrasive cloth material. While used freely on wood without worrying about the grain direction. Some orbital sanders also come with a dust collector to collect the fine wooden dust.

An orbital sander is a sanding A belt sander is most commonly used on wooden surface. Belt sander is very effective and suited for flat surface. A flat belt, in a continuous loop, runs on two using a belt sander care must be taken not to apply too much pressure as this will choke the sander with the dust.

A random orbit sander is a superior version of the orbital sander. The discs rotate and also move in an elliptical fashion. This eliminates swirl marks.

Apart from these there are several other sanders for different surfaces and applications. For example, there are table top drum sanders, detail sanders, floor sanders, stroke sanders and so on. Because of the high-speed action and rugged discs, loose particles and dust tend to fly fast and can cause injuries to the eyes. Therefore, protective gear especially protective eye wear is a must while machine sanding. Similarly, it is important to be familiar with the sanding machine operation especially how the abrasives are fixed to the wheel before using the sanding machine.

4.2.1 Sandblasting



Fig 4.3 Sand blasting interior wall (billtonnesen.com)

Normally high-pressure washers are preferred to sand blasting for households because there is every possibility that sandblasting can damage some intricate part of the house. However, it can be used for exterior walls when the area to be prepared is large.

Care must be taken that while sand blasting, proper protective equipment is worn to protect the eyes and to protect from inhaling the dust. So, eye wear and masks are mandatory.

4.2.2 Mixing Paint -

Putty, primer and finish paint must be mixed with thinners to achieve the right application consistency. Also, the paint itself must be mixed and stirred thoroughly because the heavier particles could have settled on long storage and separation could have occurred. This stirring is a difficult and a long process manually.

Fig 4.4 (i) Stirrer

Mixing and stirring can be done efficiently and in lesser time with mixers and stirrers which are electrically powered. There is a vast array of stirrers and mixers to suit different volumes and consistency. There are specialised stirrers / mixers for putty. Stirrers are available as hand held devices and on a stand. The stirrers comprise an electric motor, a rotating rod and flat blades / spatulas attached to the rod. There are stirrers with varying speed.



Fig 4.4 (ii) Hand held paint mixer

While using stirring / mixing machine care must be taken to have the container covered or else the paint is likely to splash and spill. The normal practice is to make a hole through a piece of cardboard and have the rod go through it. The cardboard needs to cover the lid of the container and must be held in place.

4.2.3 Spraying -

Spraying is the most commonly used painting method for large surfaces today. There are different types of sprayers developed for various paint applications. In spray application, a liquid paint is transformed into a fine droplet spray. This is called atomisation, wherein droplets with high energy come out. It is a physical mechanical process. These atomised droplets are seen as a spray cloud. Atomisation Energy (AE) and Coating Flow (CF) are important components of spray process.

- Plural component spray guns, have two or more suction hoses for the base and hardener respectively, which are then mixed at the tip of the spray nozzle, this eliminates the problem of using up the two component paints within the pot life.
- Coating flow means volume of paint coming out from spray equipment. It is expressed in ml/minute.
- The air pressure/ bell or disc speed, fan width/ shaping air and paint flow rate are important application parameters to be controlled for consistent quality of deposition of the coating. These are more important in the application of metallic/ pearl mica pigment containing coatings.
- The metallic/ pearl mica pigment orientation and hence colour is influenced by the evaporation rate
 of the solvent from the deposited film. The evaporation rate is dependent on the booth conditions like
 temperature, % relative humidity, air velocity, etc. To achieve a consistent orientation and colour of
 the metallic/ pearl mica containing paints, the thinner composition is determined by the "Foil Solids".



Fig 4.5 (I) Roof being Spray-Painted (oldprocessroofing.com)

Low pressure (conventional) air spray: Air atomising sprayer, is the oldest of the sprayer types. It is still in extensive use for example, for painting homes, cars etc. In low pressure air spraying, the liquid is injected, either under hydrostatic pressure or slight overpressure, into the middle of the sprayer gun nozzle. The liquid from the nozzle is then atomised into fine mist by air jets directed at different angles to the paint material being ejected. The volume of the liquid flow to the nozzle can be adjusted using the needle valve or by adjusting the nozzle orifice size. The spray pattern is determined by the angle and volume of the air jets. The method requires the availability of pneumatic air and thinning of the paint material. The quality of the finish is uniform and smooth. The method is not suitable for forming thick coats, since thinning is used to regulate the coating finish. Conventional spraying is not recommended for coating complex structures. Atomising prevents paint material from entering tight corners and the surface pores. Air atomising spraying is also called low-pressure spraying because of the low operating pressure used.



Fig 4.5 (ii) Gravity feed gun, suction feed gun and pressure pot

ADVANTAGES

Adjustable spray pattern

No movable parts

High-quality finish

Low purchase price

Allows for rapid change of colours

Not suitable for all paint types

Painting corners and other complex

other complex structures is difficult

Thinning of paint required

Fig 4.5 (iii) Advantages and disadvantages of using spray guns

Airless - High Pressure Spraying

Airless spraying is the most commonly used painting method in exterior wall painting. The splitting of liquid paint in airless spraying is based on the great pressure difference induced by conveying the liquid under high pressure through a small nozzle orifice. The resulting paint mist is fine in quality and the droplets hit the surface at a high velocity. Because there is no "air lock" to overcome, the paint enters freely into corners and to the bottom of the surface pores. The pressure required for airless spraying is supplied by a high-pressure pump, which increases the pressure by tens of times, depending on the surface area ratio between the air-side pistons and the liquid-side pistons.

For spraying paint without thinning, a nozzle pressure of 120-250 bar is usually required. Using too high a spraying pressure should be avoided, since this will increase the volume of spray dust and, thus, the visual texture of the finish. As low a pressure as possible should be applied to achieve a cost-effective outcome. The operating pressure can also be significantly reduced by using an appropriate paint heater as an auxiliary device.



Fig 4.5 (iv) Nozzle sizes

Suitability for most paint materials

High performance and capacity

Minimal thinning need High dry film thickness Minimum volume of paint mist High hose pressure requirement

Inferior visual texture of finish compared to low pressure air spray

Unsuitable for application of small volumes of paint

Fig 4.5 (v) Advantages and disadvantages of airless spraying



Fig 4.5 (vi) Airless spray technique

Two-pack spraying

In certain two-pack coatings, the curing reaction time is so short that dedicated two-pack spray applicators have been developed. The applicators pump the curing agent and the base component from separate containers and mix the components to the correct proportion before the liquid reaches the spray gun.

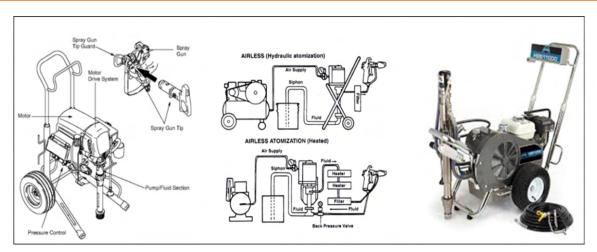
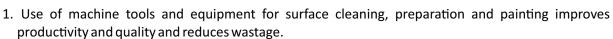


Fig 4.5 (vii) Plural component system





– Notes 🗐	

Exercise
Answer the following questions:
1. What is sanding process?
2. Explain the workflow operation of electric sander machine.
Write a short note on:
a. Mixing paint
b. Airless-High Pressure Sprayingc. Sandblasting









5. Wall Texture Using **Hand Tools or Stencil**

Unit 5.1 - What is Texture Paint?

Unit 5.2 - Application of Stencil Design on Walls

Unit 5.3 - Different Styles of Texture Painting



-Key Learning Outcomes 🕎

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

- 1. Define a texture coating
- 2. Describe the different methods for texture painting

UNIT 5.1: What is Texture Paint?

Unit Objectives 6



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

1. Define and identify a texture coating

- 5.1.1 Texture Paint

In contrast to conventional paints which deliver a smooth and even finish, texture paint either has a design "look", or a textured "feel" or both – look and feel. It can broadly be considered as deviations or irregularities of the surface finish from perfect uniformity. Texture paints are used to hide imperfections in the wall and sometimes to contrast a wall from the rest of the walls.

There are three broad categories of texture paint:

- Physical texture
- Visual texture
- Combination of physical and visual texture







Fig 5.1 Visual and physical texture, physical texture and visual texture

Visual and physical texture is when texture is achieved by both the kind of paint used and by the use of multiple colours.

A physical texture finish contrasts with an even smooth finish. A physical texture is coarse and uneven. This finish requires special tools such as trowels or scrapers (putty knives). Physical texture application involves some level of skill and therefore requires skilled painters to apply.

A visual texture is usually obtained by creating a pattern using two or more colours. Like physical texture, visual texture application involves skill and therefore should be applied by a trained painter.

UNIT 5.2: Application of Stencil Design on Walls

Unit Objectives



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

- Enumerate the different methods for texture/ design formation.
- 2. Describe the difference between a stencil and hand tool used for texture/ design.
- 3. List the do's and don'ts.

5.2.1 Stencil Application -

Stencil is application of paint through blank spaces cut out of paper or plastic to form a pattern. The advantage of stencil is that patterns can be reproduced accurately many times. Stencil gives the effect of wall paper on walls though paints.

The first step is to select and decide on the design and extent of its use and the colour combinations to be used. The customer must be made to fully understand the effect of the stencil pattern and the need to decide on a colour scheme. The painter needs to be clear on what the customer wants and get confirmation on his understanding.

The painter will follow the usual steps of surface preparation and apply the base coat of paint in the colour approved by the customer. This base coat colour must be completely dried before applying the stencil pattern.

Now to apply the stencil pattern, the following is required: paint for the pattern, roller or brush, stickers to hold the stencil on to the wall, towel or paper to remove excess paint.

The stencil pattern must be carefully aligned on the wall and fixed with the help of stickers. If the patterns are large and to be repeated on the entire length of the wall a sponge roller is ideal. However, if the design is intricate and small, a brush with soft bristles is ideal.

While applying the paint over the stencil care must be taken not take too much paint for this will lead to bleeding under the pattern. So, all excess paint must be wiped off on the towel or paper. The paint should not be too thin for this will also lead to bleeding. Care must be taken not to apply too much pressure while applying the paint over the stencil.



Fig 5.2 (i) Stencil painting on walls(decoist.com)



Fig 5.2 (ii) Well done stencil painting (aliexpress.com, fruityparadise.net)



Fig 5.2 (iii) Stencilling (diybydesign.blogspot.in, techillin.com)

-5.2.2 Do's and Don'ts of Stencil Painting

Do's	DON'Ts
Remove all excess paint from the roller	Use a very thin paint (low viscosity)
Use a sticker to hold the stencil	Apply too much pressure on the roller
Make sure the pattern is aligned properly	Use a slow drying paint
Remove the stencil after paint has dried	

Table 5.1 Do's and Don'ts of Stencil Painting

UNIT 5.3: Different Styles of Texture Painting

Unit Objectives 6

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

1. List the different techniques for creating texture designs.

5.3.1 Texture painting Styles

There are several techniques to create special effects using imagination and a variety of tools such as cloth, sponge, special rollers, special brushes, combs, spatula and so on. The key is to carefully study the manufacturer's instructions and MSDS before use of the product.



Fig 5.3 Stippling, sponging, combing and ragging

Stippling is creating a velvet like glaze by using a special stippling brush (hard bristles). The stippling brush is dipped in glaze and patted on the wall to create a fine velvet like texture.

Sponging is the technique wherein, a sponge is dipped in this contrasting or lighter colour and dabbed on the surface to create the sponge effect. The wall needs to be given a base coat and once the base coat is fully dry, a contrasting or lighter colour is used to sponge.

Combing is a technique to create an effect by pulling a comb on paint to create stripes and a wood grain effect. The procedure is to apply a base coat on the surface and let it dry. Then apply a second glaze code of a lighter shade and pull the comb over it. The teeth of the comb will split the paint to reveal the base coat and this gives a wood grain effect. It is important to align the teeth of the comb perfectly so that there are no gaps. The comb can also be pulled to create patterns such as waves, etc.

Ragging is a dual tone effect created with the help of a rag soaked in paint. Rag application creates a random pattern on the surface and involves skill of the painter. On a surface painted already with a base colour, ragging is to apply pattern with a lighter shade of the base colour. The painter either has to bunch the rag and dab it on the surface or roll the rag over the surface.

UNIT 5.4: Merits and Demerits of Various Application Methods

Unit Objectives



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

1. Give the advantages and disadvantages of texture painting.

5.4.1 Merits and Demerits of Texture painting



- 1. All these application methods give a very distinct and contrasting finish to the wall.
- 2. These special effects can effectively hide defects in the wall.
- 1. The special effects and visual appeal required high level of skill in the applicator.

DEMERITS

Tips 🗓



1. Texture design creation is an application skill. Apart from the tools and stencils available in the market, a Texture painter can create a design using his creativity and imagination.

Notes



E	xercise	
Αı	nswer the fol	lowin
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An	Answer the following questions:				
1.	Explain different categories of texture painting.				
2.	Explain do's and don'ts of stencil application.				
3.	Describe merits and demerits of various application of texture painting.				
a. b. c.	rite a short note on: Stippling Sponging Combing Ragging				









6. Coordinate with **Colleagues and Customers**

Unit 6.1 - Interacting with Superior

Unit 6.2 - Communicating with Colleagues

Unit 6.3 - Communicating Effectively with Customers



- Key Learning Outcomes 💆

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

- 1. Learn behavioural skills to interact with your colleagues and co-workers effectively
- 2. Describe steps to achieve customer satisfaction
- 3. List quality and service orientation markers

UNIT 6.1: Interacting with Superior

Unit Objectives



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

1. Describe best ways of interaction with your superiors at work

6.1.1 Interacting with Superior –

An organisation is a group of people working collectively towards a common goal linked to an external audience/environment. Simply put, all the employees in an organisation act as tiny parts of a large machinery which helpseamless and efficient functioning.

Every organisation must have a structure. The organisation structure enables clarity of purpose and role of every individual ensuring there are no overlap in functions. It also clearly defines a hierarchy which determine who takes what decision and thus how those decisions shape the organisation. These decisions provide the direction needed in the organisation.

Interpersonal relations / communication between employees across hierarchies are thus very important. A code of conduct / protocol ensures expectation management and reducing the gap between superior and subordinates by increasing the levels of trust and support ultimately achieving organisational and personal goals.

Openness and comfort in communication plays a very important role in achieving job satisfaction. Reporting problems and asking for possible solutions after your own unsuccessful attempts, taking feedback etc. all come under interactions with your superior.

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UNIT 6.2: Communicating with Colleagues

Unit Objectives



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

1. Describe best ways of communication with colleagues

6.2.1 Interacting with colleagues

Building trust with colleagues and co-workers is as important as doing your work efficiently and effectively. Here are a few actions you can take to build a relationship of trust and respect with your colleagues and co-workers:

- Greet everyone in the workplace with a smile and positive body language.
- Offer help to a new colleague to settle down in the job.
- Show courtesy and respect to colleagues.
- Do not disturb others when they are working.
- Keep your workstation clean.
- Leave washroom and other common facilities clean after use, for others.
- Do not waste your time and others' time by holding long conversations which are not related to work.
- Do not use cell phones at work.
- Do not mope. Keep a smiling face.

Following right communication rules is very important to keep a healthy relationship with colleagues and co-workers. In modern day workplace, people generally work in teams. It is important to build healthy relationship with the team members. Following are some important communication rules to follow:

- Speak in a polite and respectful tone. A voice tone suggesting impatience, sarcasm or taunt is not acceptable in the workplace.
- Use positive words and body language. Avoid words and topics which may offend anyone at workplace.
- If there is any conflict with a co-worker, resolve the issue amicably without raising your voice or getting angry.
- Greet your colleagues and co-workers in the morning or at the beginning of the shift.
- Use positive words and body language.

The quality of relationship you build with your colleagues and co-workers will depend on the behaviour you demonstrate while interacting with them. A relationship built on trust, good and clear communication, polite language and appropriate behaviour at all times helps you to be successful at work.

UNIT 6.3: Communicating Effectively with Customers

Unit Objectives



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

- 1. Describe best way of communicating with customers
- 2. List quality and service satisfaction markers

6.3.1 Communicating with Customers

A customer in your context is anyone – internal or external who might legitimately have a work-related expectation from you. Both their opinions are critical to the success of your company and sale of your products.

Internal customers are persons within the organisation who use products or services delivered by you as inputs in their work. For example, production staff in a factory are internal customers of maintenance technicians. The feedback provided internal customers is valuable. It must be implemented and taken seriously.

External customers are the end consumers and/or companies who buy your products. They do not belong to your organisation. These individuals are essential to the success of your company, as they purchase your product. Satisfied external customers make repeat purchases. They also refer the experience to others.

- Understanding customer expectations and implementing the same helps achieve customer satisfaction. Delivering more than expected adds to the overall experience of a good sale. It brings repeat customers.
- Managing customer relations requires dedicated and committed effort. It involves understanding the customer's need correctly and fulfilling it every time. With a business customer, it involves understanding their business and in what ways our product / service can help grow and improve their business.



Fig 6.1 digitalbusinessblog.files.wordpress.com

General tips for interactions with customer are as follows:

- Greet and welcome the customer in a friendly manner
- Make an earnest effort to understand customer needs. Ask specific pertinent questions.
- Be attentive, listen carefully and make notes. Suggest Upgradation and add-ons if they give value to the customer.
- Find out customer's likes and dislikes by soliciting their opinion and comments on the demonstrated samples
- Never promise more than you can deliver. Always deliver more than you promise, never fall short
- Agree on all terms and conditions

When the customer is another organisation (such as an OE company, a cooperative society or a club), many persons from the customer organisation get involved. Each may have different needs and expectations. In such situations,

- Identify all the stakeholders (internal and external) and opinion makers right at the outset and understand their needs
- Understand the organisation's strategy and its priorities. This is critical to understanding which needs rank high.
- Be aware that there will be internal dynamics at work in any organisation, and one needs to steer clear of getting caught up in any interpersonal conflicts.
- Document what will be delivered (quantities, specifications and timelines) with a formal sign-off from the customer's side. This can avoid misunderstanding and disappointment later. Such document should also list key expectations from the customer that are critical for timely and quality delivery.
- With a long-term customer, explore ways of bringing about continuous improvements that can help the customer's business. This is critical to keep getting continuing business.
- Be available to deal with the customer's queries and concerns promptly and at all times.

Quality is the sum total of all the elements connected with the product and service that impact the customer's perception positively. Examples are the product's functional performance, aesthetic appeal, reliability, durability, quality of the material used, meeting the design specifications of the end user, customer service during and after the delivery etc. The test of quality is when the customer is totally satisfied with the product in every respect.

Service orientation is the ability and desire to anticipate, recognise and meet customers' needs. It is a personality characteristic which makes people focus on providing satisfaction and making themselves available to others. Excellent customer service is unthinkable without customer service orientation.

Scan the QR Code to watch the related video



www.pcsc.in/2022/04/11/basics-of-soft-skills/

6.3.1 Quality and Service Orientation



Fig 6.2 Canvas Quality.com

6.3.2 Quality and Service Orientation

Customer satisfaction means the customer is satisfied and happy with the work we have done. A satisfied customer is ready to give us repeat business or recommend us to friends and acquaintances. Customer satisfaction is important because in today's competitive market place every business competes for customers. Your business is constantly under threat from competition trying to take it away; consistently maintaining high customer satisfaction is crucial to retain customers for the long term. Customer satisfaction is the best indicator that the customer is likely to be a repeat customer. It is always cheaper to retain an existing customer than to acquire a new one.



Fig 6.3 fenero.com

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1. Always remember customer is King! Think of the many ways in which you can contribute to increased customer satisfaction.

Notes 🗐			

Exercise 🔀 —



An	answer the following questions:			
1.	Explain the best ways to interact with superiors at work.			
2.	What are the best ways to communicate with colleagues?			
3.	Differentiate with internal and external customers.			
14 /-	rite a short note on:			
	Customer satisfaction			
	Quality and Service orientation			









7. Maintain Standards of Product / Service Quality

Unit 7.1 - Meeting and Exceeding Customer Expectations

Unit 7.2 - Coating Defects, Tests and Standards



Key Learning Outcomes 💆

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

- 1. Explain product / service quality requirements for wood polishing
- 2. Follow company's policy and work instructions on quality standards to achieve customer satisfaction.
- 3. List out various defects and tests to check the quality of the wood polishing

UNIT 7.1: Meeting and Exceeding Customer Expectations

Unit Objectives



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

- 1. Describe the target customer and the quality standards defined by the company
- 2. Implement the improvement suggested by supervisor and the customer

7.1.1 Customer expectations

A thorough understanding of the total polishing system is necessary to begin the discussion with the customer.

• Understand customer requirements:

You should be able to obtain clear instructions and specifications from the customer about the desired finish, look, durability expectation and corrosion protection specifications. Some customers may not have a clear idea about their requirements. In such cases they will need to be guided. Prepare a few samples and get the customer to choose finish, gloss, and shade, which are some basic visual requirements for a coated film.

Established industries generally have well defined specifications stating their requirement. However, even here it is necessary to engage with the customer to ensure common understanding on tolerances, subjective parameters, working limitations and skill levels at customer factory as well as other unstated terms. For example:

- When the customer asks for exact match to a standard colour panel, what is the level of tolerance permitted? Will the customer go by visual judgement or by an instrument match?
- What are the testing methods and standards that the customer would use?
- What is the process for maintaining and updating standard panels?
- What are the application equipment, parameters and conditions at the customer end?
- Are there any work restrictions at the customer's premises, for example on working hours, holidays, use of elevators, etc.? It is important to be clear on these while committing to aggressive completion targets.
- Can we describe what performance would be seen as exceeding the customer's expectations?
- Does the customer have internal targets for continuous improvements over time? What are the expectations from the coating supplier/contractor in this regard?

Understand the total coating application system/process, nature of the facility and limitations:

Delivering good and consistent quality in the design, production or application of paints and coatings requires understanding application conditions in detail. This includes obtaining insights and information on all relevant factors such as:

- Type and quality of the substrate and variations that may be encountered
- Surface preparation needed
- The type of coatings to be applied
- The application equipment available/needed
- Applicable/expected quality standards
- Ambient conditions and site conditions
- Maximum size of components which can be fitted

- Overall magnitude of the job
- Maximum weight the conveyor can take (known as point load)
- Bake conditions, oven design, baking window
- Support facility limitations (e.g. conveyor speed, maximum loading etc.)

• Fool-proof the process and have the right equipment

Analyse and find areas which need to be corrected to gain control of the overall process. This will reduce variations/ surprises and facilitate meeting quality expectations in a consistent and timely manner.

- Inspect the material(s) to be coated before starting the process to ensure good quality and good finish
- Check materials and consumables to be used. Make sure that they conform to specifications
- If the input jobs do not meet the requirements, discuss with the customer and quality in-charge and take appropriate actions
- Follow the right processes and use correct equipment for the job
- Ensure that applicable SOPS are adhered to
- Get feedback from the customer and incorporate suggestions for improvement:
 - After delivering the product/output, probatively find out specific customer feedback
 - Make a note of the feedback and improvements the customer is looking for
 - Tell the customer what improvements you will incorporate in the next job

- 7.1.2 Quality Standards of the Company

When coating is carried out under proprietary or customer specifications usually the following criteria are considered to check the quality of the finished job.

On visual inspection, the coating should show the desired finish and correct curing without defects or blemishes.

- Mechanical strength checks are performed to ascertain that the DFT (Dry Film Thickness), hardness and flexibility criteria are met
- The film is tested for corrosion resistance. This may include salt spray resistance test, humidity resistance test etc.
- Outdoor durability tests include ultraviolet resistance test and actual outdoor resistance test

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UNIT 7.2 Coating Defects, Tests and Standards

Unit Objectives



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

- 1. Explain the process of maintaining and enhancing quality standards.
- 2. Describe various tests and their pass/fail criteria and acceptable tolerance level.
- 3. List the equipment used for quality tests.
- 4. Describe the ways to improve company's customer satisfaction rating.

7.2.1 Company Policy and Importance of SOP

A company's policy defines and helps ensure adherence to quality standards.

- What kind of durability must the finished product meet?
- What are the criteria laid out for the quality assurance program?
- What are the customer specifications?

Based on these a 'Standard Operating Procedure' or 'SOP' is generated with specific work instructions. An SOP is a procedure specific to the operation that describes the activities necessary to complete tasks in accordance with industry regulations, legal requirements and quality standards

Why is it important to follow an SOP?

- Saves time and eliminates mistakes
- Ensures that consistent standards are followed throughout the process
- Reduces training costs
- Supports quality goals

7.2.2 Tests and Standards to Check Quality

- Dry Film Thickness (DFT) measurement
- Gloss
- Colour
- Flexibility / bend test
- Pencil hardness test
- Adhesion test

7.2.2.1 Dry Film Thickness (DFT) Measurement

This test is devised to check the correct coating thickness on the components as per the specifications.

- Dry film thickness (DFT) is the thickness of the coating
- DFT is measured for cured coatings. Proper thickness range is recommended in specifications
- There are various types of DFT gauges available in the market, from simple magnetic gauges to digital gauges
- The gauge should be calibrated periodically by using a bare metal plate (zero setting) and standard thickness plastic foils (shims) which are supplied with the gauge
- Different gauges are available for ferrous and non-ferrous substrates (F and NF)
- Destructive method or ultrasonic method of DFT measurement is used for non-metallic substrates like wood, plastic, etc.



Fig 7.1 (i) Magnetic Gauge



Fig 7.1 (ii) Digital Gauge

7.2.2.2 Gloss Check

- Gloss is measured with Gloss Meter of different designs. The reflection is measured, and the angle of reflection is specified at 20°, 45°, 60° and 85°
- An angle of 60° is most common in the coating industry
- An angle of 20° is used for a more differentiated result of high gloss surfaces; usually recommended for Automotive class "A" finish
- An angle of 85° is used for a more differentiated result of matt surfaces, not so popular in coating industry



Fig 7.2 Gloss Meter

7.2.2.3 Colour Check

Colour may be checked visually or using a computer aided spectrophotometer. If measured by a spectrophotometer, the colour difference is reported as ΔE (Delta E). The ΔE should fall within the demarked tolerance zone.

- Visual inspection, compared to a master. It is very important to use a relevant light source when judging colour
- Computer aided spectrophotometer
- Stationary equipment orportable equipment



Fig 7.3 Spectrophotometer

7.2.2.4 Flexibility - Bend Test

This test is to determine the elasticity, adhesion and elongation ability of a dry coated film applied on a flat metal support. This test cannot be performed on rigid substrates like wood, plastic, etc.

- It is checked using either a conical or cylindrical mandrel with a graduated scale
- The apparatus contains a holder for a mandrel, a bending lever fitted with height adjustable rollers, and sliding tongs for fastening the sample
- It is a laboratory apparatus to bend coated test panels over a conical/cylindrical shaped mandrel in order to assess the elasticity of the coating, in accordance with ISO 6860 and ASTM D522
- The conical shape of the bending area allows the deformation of the test panel and examination of the elasticity range of a coating over any diameter between 3.1 and 38 mm in one single test

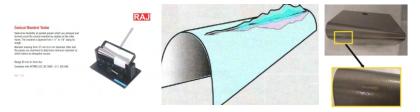


Fig 7.4 Bend test on a conical mandrel

7.2.2.5 Pencil Hardness Test

Pencil hardness test is one of the many tests used to evaluate coatings. It is a simple and dependable test that uses pencils that are graded. The grade of the pencil is determined by the amount of baked graphite and clay in its composition. The test is performed by scratching the coated surface with pencils of known hardness.



Fig 7.5 Pencil Hardness Test

Softer Pencils	Harder Pencils
6B 5B 4B 3B 2B B	HB F H 2H 3H 4H 5H 6H

- 7.2.2.6 Adhesion Test -

Adhesion test is used to determine if the paint or coating will adhere properly to the substrate to which it is applied. There are three different tests to measure the adhesion of the coating to the substrate.

- Cross-cut test
- Scrape adhesion
- Pull-off test

Cross-cut test: This test determines the resistance of the coating to separation from the substrate by utilising a tool to cut a right-angle lattice pattern into the coating, penetrating all the way to the substrate. It is a quick test to establish pass/fail test. When testing a multi-coat system, the resistance to separation of different layers from one another can be determined by this test.



Fig 7.6 (i) Adhesion test fail



Fig 7.6 (ii) Adhesion test pas

Pull off dolly test: Unlike the other methods, this method maximises the tensile stress, therefore results may not be comparable to the others

- The test is done by securing loading fixtures (dollies) perpendicular to the surface of a coating with an adhesive. Then the testing apparatus is attached to the loading fixture and is then aligned to apply tension perpendicular to the test surface.
- The force that is applied gradually increases and is monitored until a plug of coating is detached

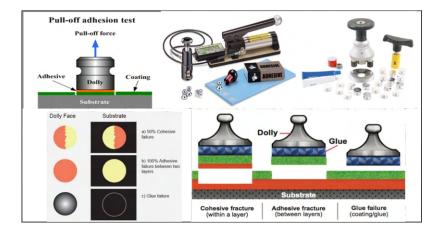


Fig7.6 (iii) Difference between softer and harder pencils

- 7.2.2.7 Impact Test

Impact Test

Impact test is also known as drop weight test. The coated panel is subjected to mechanical impact by dropping a standard weight which can deform the coating and /or the substrate. With this test coating is tested for elasticity, brittleness, and adhesion to the substrate. As per ISO 6272-1:2011 - it is a method for evaluating the resistance of a dry coating film to cracking or peeling from a substrate when it is subjected to a deformation caused by a falling weight, with a 20-mm-diameter spherical indenter, dropped under standard conditions.

- Measures the deformation of a coating film
- Test performed on the front and reverse sides of a panel
- Result expressed as Pass or Fail
- Test is mainly performed on metal substrate.



Fig 7.7 (i) Impact Tester Fig 7.7 (ii) Impact Test

- 7.2.3 Defects in a Coated Film -----

No.	DEFECT	CAUSES
1.	RUNS AND SAGS	 Over thinned paint Use of very slow evaporating thinner Applying paint without proper flash time between coats Very low air pressure during spray application Improper spray gun set-up or an unbalanced spray pattern Very cold substrate
2.	CHALKING	 Chalking is a surface phenomenon, generally caused by exposure to UV radiation produced by the sun and its action on the organic binder In the presence of UV light, airborne reactants such as oxygen, humidity, and pollution react with the resins in the binder, causing it to disintegrate and leaving the pigments free on the surface Typically, amine-cured epoxies and epoxy esters chalk rapidly and acrylics and acrylic-modified resins have good chalk-resistant properties since they are less affected by the sun's radiation Chalking may not be a serious problem, and typically the coating will continue to provide protection in most cases, even though it may look faded
3.	EROSION	 It is a surface defect often associated with chalking and often seen in brush applied coatings where the brush marks are exposed as the coating wears away It is caused largely by heavy rainfall, high winds, hail or a combination of wind and rain; by sand erosion along beach areas; or by sandstorms in desert areas Erosion of internal linings can be a significant problem in pipes carrying slurry or cooling water Resins with some elastomeric quality may be effective, providing resilience to combat the impact of the eroding particles
4.	CHECKING	 Checking is a form of cracking and is identified by small breaks in the coating that form as the coating ages and becomes harder and more brittle It is a surface phenomenon that does not go all the way to the substrate It can be caused by the mixture of resins, solvents and pigments that are not compatible. Excessive film thickness, low flash off between coats, inadequately dry or thick undercoat are also some of the causes for checking

No.	DEFECT	CAUSES
		 To minimise checking, the coating should be formulated with weather resistant resins, non-reactive pigments that do not contribute to checking, long lasting and stable plasticisers, and reinforcing pigments that reduce stress in the coating surface Apply thinner coats of paint with adequate flash off or drying between coats
5.	ALLIGATORING	 It is mostly a formulation-related failure and prevention is a matter of selection The coating system selected should not specify a soft primer under a harder topcoat. The coating should be applied in thin coats, which should be allowed to cure before application of successive coats Never apply a hard coating that oxidises or requires polymerisation over a permanently softer or more rubbery primer
6.	CRACKING	 This formulation related failure is due to premature aging or weathering and, unlike checking or alligatoring, the cracks break through the coating, extending to the substrate Cracking is a much more serious type of failure than checking Checking results from the stress on the coating surface, while cracking results from stress throughout the film and between the film and the substrate The use of proper resins, plasticizers, and pigments in coating formulation minimises the tendency of the coating to cracking Fibrous or acicular (needle shaped) reinforcing pigments can help in reinforcing the coating against cracking
7.	MUDCRACKING	 Unlike alligatoring, mud cracking goes directly to the substrate. It presents an immediate corrosion problem with possible chipping and flaking of coating from the surface It occurs when highly filled or pigmented coatings, particularly zinc rich coatings are applied too thick Highly filled water-based coatings sometimes mud crack, with the reaction occurring as soon as the solvent or water carrier begins to dry out of the coating Mud cracking can be prevented by a combination of coating selection and proper application. If fast drying conditions exist or are expected, the user should avoid highly filled water-based coatings. The coating should be applied during more moderate drying conditions, in thin coats without runs and sags

No.	DEFECT	CAUSES
8.	WRINKLING	 Wrinkling generally occurs when coatings are applied too thick. It results from the swelling of a coating where the surface of the coating expands more rapidly during the drying period than the body of the coating. Occurs most with oil based coatings. If a coating contains an excess of surface driers, wrinkling may occur wherever the coating is thicker than normal. Wrinkling is likely to occur in cold weather when the thickened coating is applied so that a heavy film develops or in hot weather when the topcoat dries quickly but the coating underneath remains soft.
9.	BLISTERING	 Blister develops first in localised spots where the adhesion is weakest. Blisters can be large or small and may exist in isolation or in groups. Blisters may be initiated by several causes. Mostly, they are formed due to the presence of moisture or other vapours, such as air or solvent, within the coating. A blister generally first appears when the vapour within the coating expands at elevated temperatures. It can also arise from soluble pigments in the primer and soluble chemical salts. Yet another cause could be inadequate solvent release by the coating.
10.	INTER-COAT DELAMINATION	 Delamination is the loss of adhesion between coats in a multi coat system and is most common where repair or maintenance coatings are applied over cured coatings. New coatings applied over existing coatings may not be compatible with the previous coating, and delamination can occur. Precautions should be taken to minimise the problem by cleaning adequately and by applying coatings as quickly as possible after the cleaning operation. Another cause of delamination is the application of a coating over another coating that has fully cured. Some modern coating formulations have been specifically developed with a low cross-link density to reduce this problem.
11.	EXCESSIVE ORANGE PEEL	 Film thickness out of proper range In case of powder coating, too slow heat-up rate and slow oven ramp-up time is the main cause. The oven temperature should cross 120°C -140°C very quickly. Grounding should be checked. The kV setting of the spray gun to be lowered. In case of liquid paints, a balance of slow and fast evaporating thinner should be maintained to achieve a smooth, orange peel free film without causing runs and sags. In air assisted spray, the recommended air pressure should be maintained.

No.	DEFECT	CAUSES
12.	GLOSS TOO LOW FOR HIGH GLOSS TYPE COATING	 Incompatibility between different coats. Micro-pinholes from outgassing. Excessive orange peel due to inadequate DFT. Over-curing of parts.
13.	INCONSISTENT FILM THICKNESS	 Incorrect positioning of spray guns. Defective spray equipment / nozzle. Reciprocators not matched to line speed. Air flow in booth disturbing spray pattern. Improper manual technique.
14.	POOR IMPACT RESISTANCE AND/OR FLEXIBILITY	 Over baked film. Poor cleaning. Excessive film thickness,
15.	POOR ADHESION	 Poor cleaning / pretreatment. The PT line is not properly maintained. Oil removal from the decreasing stages not proper. Under-cured film.
16.	PINHOLES	 Moisture in coating. Moisture in compressed air. Mixing of two different coating types. Porous component like casting. Heating too fast creating outgassing while curing.
17.	CISSING OR CRATERS	Moisture in coating.Oil in compressed air.
18.	CHIPPING	 Loss of adhesion of the film to the substrate due to impact from stones or other hard objects Sand and feather edge damaged areas to remove chips, then refinish. Use premium two component undercoat and topcoat system. Use a flex agent in undercoat and/or topcoat system in areas that are prone to chipping.
19.	DUST CONTAMINATION	 Inadequate cleaning of the surface. Dirty spray environment. Inadequate air filtration in the booth. Use of poor grade masking paper. Dirty spray gun. Dirty work clothes. Fine dust contamination can be removed by sanding and polishing.

No.	DEFECT	CAUSES
20.	FISHEYES	 Spraying over surfaces contaminated with oil, wax, silicone, grease etc. Use of thinner/reducer in place of a solvent cleaner Spraying over previously repaired areas containing fisheye eliminator additive Remove wet paint film with solvent cleaner and refinish. Add recommended fisheye eliminator and respray the affected areas. Do not use fisheye eliminator in undercoat or base coat colour. If the paint has dried, sand to a smooth finish below the fish eye cratering and refinish
21.	LOSS OF GLOSS	 Top coat applied in heavy, wet coats Inadequate flash time between coats Insufficient film thickness of topcoat colour or clear coat Using a poor grade and/or too fast evaporating thinner Improper cleaning of the substrate Insufficient air movement during and after application Spraying over a deteriorated or solvent sensitive substrate finish without proper priming or sealing procedures Natural weathering of the finish Allow finish to cure thoroughly, compound or polish to restore gloss. Sand and refinish
22.	MOTTLING	 An uneven distribution of metallic flake Too much thinner/reducer Colour over thinned/ reduced Applying clear coat to a base coat that has not thoroughly flashed/dried Improper application of base coat To get a uniform single stage metallic finishes, apply a higher-pressure mist coat, panel by panel, while previous coat is still wet or allow base coat colour to flash, then apply a low-pressure mist coat. Finishes that have dried must be sanded and refinished. Use recommended spray gun, including fluid tip and air cap for the material being sprayed
23.	SANDING MARKS	 Scratching or distorting metallic/mica flakes close to the surface of the paint film Allow finish to dry, sand and refinish. Avoid sanding base coat finishes before clear coating. If sanding is necessary, apply additional colour following label direction. When sanding single stage, finishes confine the sanding to minor imperfections – nib sanding rather than entire panel

No.	DEFECT	CAUSES
24.	SOFT FILM	 Applying undercoat and/or topcoat excessively wet Insufficient dry time between coats Improper shop ventilation or heating Adding too much or too little hardener to the paint material. Using the incorrect thinner/reducer for spray conditions Omission of drier in enamel/ urethane top coat
		Allow additional dry time, maintaining a shop temperature of 30 degrees centigrade or above or force dry following temperature and time recommendations or remove coating film and refinish. Use recommended spray gun, fluid tip and air cap for the material being sprayed.
25.	BLEEDING	 Solvent in the new topcoat dissolves soluble dyes/pigments in the original finish, allowing them to seep into and discolour the new topcoat. Remedial measures can be to remove original paint film and refinish. Preventive measure can be to isolate the suspected bleeding finish by applying a two-component surface/sealer. Allow to cure and then apply desired topcoat.
26.	TRANSPARENCY	 Paint not thoroughly stirred Colour over thinned/reduced Substrate not uniform in colour Wrong colour undercoat used Insufficient number of colour coats applied
		Apply additional coats of colour until hiding is achieved or sand and apply similar coloured undercoat/ground coat and refinish.

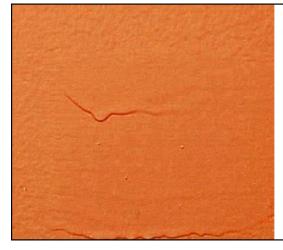




Fig 7.8 (i) Sagging of paint coating

Fig7.8 (ii) Chalking

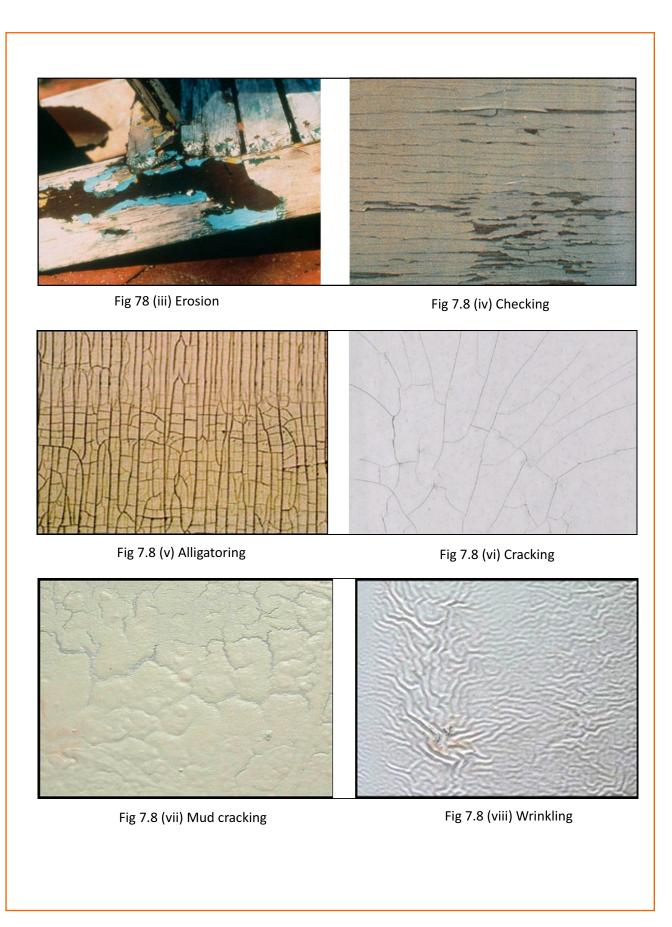




Fig 7.8 (ix) Blistering



Fig 7.8 (x) Inter-coat delamination



Fig 7.8 (xi) Orange peel

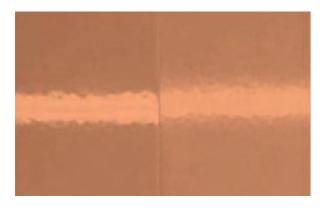
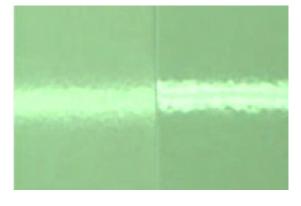


Fig 7.8 (xii) Standard Gloss



Lower Gloss

Fig 7.8 (xii) Standard Gloss

Higher Gloss



Fig 7.8 (xiv) Varied DFTs mentioned on panel



Fig 7.8 (xv) Poor pencil adhesion



Fig 7.8 (xvi) Impact Reverse Impact



Fig 7.8 (xvii) Reverse Impact Fail

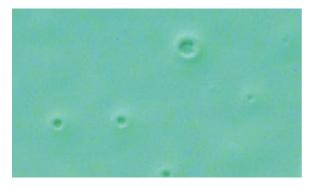


Fig 7.8 (xviii) Pinholes



Fig 7.8 (xix) Cissing or craters



Fig 7.8 (xx) Chipping

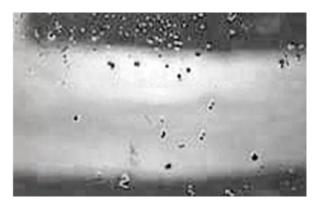


Fig 7.8 (xxi) Dust contamination



-7.2.4 Your Responsibility as a Painter

Your job responsibilities may vary from job to job, but general duties always include:

- Obtain, read, and fully understand the coating specification. Bring up any questions with the appropriate person, and get them resolved
- Fully comply with specification requirements and that work performed matches the required standard of quality
- Determine that all essential raw materials, especially coatings, are stored correctly and used in batches within the manufacturer's recommended shelf life
- Maintain records of all work done, the conditions under which it was done, and any other appropriate report items required by the supervisor
- Ensure that the necessary test instruments and standards required are available at all times and that each instrument is fully functional and properly calibrated
- Avoiding over-pressurisation and unintended pressure release
 - Exceeding the safe working pressure of a component
 - Continue duce of worn or damaged equipment
 - Operator does not follow pressure-relief procedures
 - Us inge placement parts that are not genuine Graco parts
 - Connections are not tight
 - Connections are incompatible
 - Connections or components are inappropriate for the pressure rating

— Notes 🗐		
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7.2.5 Safety and preventive measures

Avoiding skin injections:

- Stay clear of high-pressure fluid streams and sprays
- Never remove protective devices, such as spray gun tip guards, during application
- Use proper pressure-relief procedures
- Use proper flushing practices describe din instruction manual
- Never try to stop leaks with your hands or body
- Always use the spray gun trigger safety lock when not spraying
- Don't feel for leaks with your hands or a rag

Avoiding pressure-related injuries:

- Do not exceed the working pressure ratings (WPR) of components, paying special attention to highpressure equipment
- Operate the motor within the recommended air or hydraulic pressure
- Do not repair permanently coupled hoses
- Use only genuine service parts as specified by the manufacturer
- Properly align spray tips to prevent back-spray
- Do not use low-pressure fittings on high-pressure equipment
- Do not use damaged or worn out equipment
- Check for proper connections and make sure they are tight before pressurising the system
- Follow procedures for relieving fluid pressure whenever you stop equipment for service or repair

Avoiding injury from moving parts:

- Never operate equipment with guards or other protective devices removed
- Check regularly to ensure that safety devices are operating properly
- Properly use bleed type shut-off valves

Avoiding toxicity:

- Use recommended personal protection equipment (PPE) to avoid contact with hazardous materials
- Read and follow directions on all coating material labels and material safety data sheets (MSDS)
- Never operate gas engines indoors

Avoiding electric shocks:

- Properly ground all objects in the system, including operators
- Follow the procedures in instruction manuals to avoid shocks from electrostatically charged components
- Never operate electric equipment when it is wet or when the surrounding area is wet
- Use only grounded outlets, extension cords and fluid hoses designed for high-pressure spraying that are in good condition
- Do not modify or remove electrical cords

Exercise 🔀



Answer the following questions:

Answer the following questions.
1. What are primary hazards?
2. Explain various types of gloves in PPE.
3. List any five safety precautions at work.
Write a short note on:
a. Earplug
b. Eye shield
c. Masks
d. Gloves
e. Waste Disposal









8. Maintain OH&S **Standards and Follow Environmental Norms**

Unit 8.1 - Responsibility Regarding Safety

Unit 8.2 - Waste Disposal

Unit 8.3 - Use Safety Tools and Personal Protective Equipment (PPE)

Unit 8.4 - Handling of Coating Materials and Equipment as per Safety and Environmental Standards

Unit 8.5 - Precautionary Measures



-Key Learning Outcomes 💆

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

- 1. List the personal protective equipment and its uses to be used at the workplace
- $2. \ Explain the precautionary \, measures \, for \, emergencies \,$

UNIT 8.1 Responsibility Regarding Safety

Unit Objectives 6



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

- 1. Explain safety
- 2. Identify various types of hazards in your workplace
- 3. Describe what an MSDS is and why it is important

8.1.1 Primary Hazards

Fire

 All solvent based coatings, whether in a container or as a wet film on a surface, are flammable. In most cases, the coating's binder resin is also flammable. Precaution should be taken to prevent a spark or a flame from coming in contact with wet film or liquid paint.

Explosion

 When sufficient solvent vapour is present in the air, a spark or a flame, can cause the entire air volume to react at one time, creating an explosion. Explosion can occur without fire, although they are often combined. Every effort should be made to prevent the solvent-air mixture from reaching 50% of the lower explosive limit.

Reactivity

 Reactivity is not ordinarily a major problem from safety standpoint. However, in two pack systems, the mixing of the base and the hardener makes the system reactive and can generate substantial amount of heat. Epoxies, polyurethanes, and similar reactive materials such as polyesters catalysed with acid, develop a substantial amount of heat. whenever they are mixed. Hence the base and the hardener or catalyst should be stored separately.

Health Hazards

 Most coatings are not so toxic and protective clothing and proper equipment can provide full protection. Any worker sensitive to heights should not work on ladders, scaffolds, or rigs.

Fig 8.1 Primary hazard

8.1.2 Hazards Associated with Coating Materials and Equipment

Most paint materials are hazardous to some degree. All paints, except water-based paints are flammable; many are toxic, and others can irritate the skin. However, most paints are quite safe to use if simple precautions are followed every time.

Among paint raw materials, solvents, resins and solvent based drier solutions are flammable. Some solid materials such as metallic powders carry explosion risk. Products such as fungicides used in certain water-based paints are toxic. Powder raw materials such as pigments and extenders pose risk of inhalation. All these materials need to be handled with appropriate personal protective equipment and, following all safety instructions correctly.

Surface preparation materials like solvents, acid or alkali cleaners can cause skin irritation if not used with care.

Due precautions need to be observed during the use of high pressure abrasive or water blasting methods for surface preparation. Safety gear should be used when using ladders, scaffolds and rigs for working at heights.

Slippery floors and obstacles located on the floor may cause falls.

Electrical / mechanical equipment may produce shocks or other serious injuries if not handled with care. An obvious hazardous location is the interior of a tank at a paint factory or at a customer site. Deviations or taking short cuts and not following proper procedures may produce unsafe working conditions which may result in accidents, loss of life, time and materials.

8.1.3 Chemical Hazards

Chemical manufacturers are required to evaluate chemicals produced to determine if they are hazardous. The manufacturer reviews the chemical substance to determine if it is carcinogenic, toxic, irritant or dangerous to human organs, flammable, explosive, or reactive. This information is available in the material safety data sheets (MSDS) that are supplied with materials.

What is a Material Safety Data Sheet (MSDS)?

A Material Safety Data Sheet (MSDS) is an information sheet that lists the hazards, safety and emergency measures related to specific products. An MSDS is required for industrial products used in the workplace like chemicals, paint, thinners, pretreatment chemicals and cleaners.

Why do I need to use an MSDS?

You may want to know if there are chemicals in the products that can cause adverse health effects such as allergies or asthma during its handling and use. This information may be helpful to prevent exposure to chemicals from new products or in finding out if existing products may be causing symptoms.

Where can I get an MSDS?

Suppliers provide a MSDS for each product supplied to the customer. This may be available with the safety department of your company. You may also obtain an MSDS from data bank available on internet.

Why is an MSDS sheet required for a medical emergency?

In an emergency, the doctor can request an MSDS, to understand the nature of the hazard and the antidote recommended for treatment.

Where can I get more Information?

Some product labels include a full list of ingredients. Some suppliers will provide a full list if you request it. You can also ask the supplier's chemist for more information, including a list of additional ingredients.

Are all ingredients Included in MSDS?

No. Only specific hazardous chemicals are mentioned on a MSDS. Thus, perfume or a chemical odorant that may not be considered hazardous may not show up in the MSDS. Manufacturers do not disclose information they consider proprietary. Such information may relate to the chemical composition.

The MSDS lists each required substance that makes up more than 1 per cent of the product. However, if the chemical causes cancer, respiratory sensitisation, or reproductive effects, then it must be listed even if it makes up more than 0.1 per cent.

How much of a chemical is a problem?

It is important to consider several factors to determine if you should be concerned. For example, the quantity, toxicity and other effects, and the potential exposures of each chemical are important to think about. It is also important to know that most of the information on an MSDS relates to exposure to one chemical at a time.

Technical Terms: Listed below are some definitions of terms you may find on an MSDS.

- Carcinogen: causes cancer
- Hormonal: some chemicals act like hormones
- Reproductive toxin: damages the male or female sex organs, sperm, or eggs
- Sensitisation: a body response which makes you react to a smaller amount than before
- Teratogen: causes developmental abnormalities to the foetus (unborn child)
- Toxin/toxic: poison/poisonous

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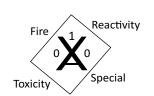
MATERIAL SAFETY DATA SHEET

2020 E. Orangethorpe Ave., Fullerton, CA 92631

Chemical Name	Vinyl Acrylic
Formula No	100
Chemical Family	Vinyl Acrylic
Trade Name	Cerama-Tech

HAZARD RATING

- 4 Extreme
- 3 High
- 2 Moderate
- 1 Slight
- 0 Insignificant



I - PHYSICAL DATA

Appearance. Odor liq	uid, mild odor	Solubility In water	yes
Boiling Point	250° F	Specific Gravity (H20=1)	1.428
Vapor Pressure (mm Hg)	.02	Percent Volatile by Volume	42.22%
Vapor Density (Wrist)	N/A	Evaporation Rate (Butyl acetate=1)	N/A

II - HAZARDOUS INGREDIENTS

Material	Cas Number	OSHA PEL	TLV
Ethylene Glycol	107.21-1	N/A	100 PPM
Texanol	2526547-4	N/A	N/A

III - FIRE AND EXPLOSION HAZARD DATA

Flash Point	248F	AUTO IGNITION TEMPERATURE that of water		
LEL % .62	UEL (%) 4.24	DOT Category NON FLAMMABLE		
Extinguishing Media Foam, CO2, Dry Chemical				
Special Firefighting Procedures Avoid confined spaces unless properly protected against potential irritating and toxic fumes.				
Unusual Fire and Explosion Hazards KEEP AWAY FROM HEAT. Containers may explode when exposed to extreme heat.				

Although the menu/adorer has attempted to provide current and accurate information concerning the chemical properties listed herein. the manufacturer makes no representation, regarding the accuracy or completeness of information listed herein and assumes no liability for any LOW damage or injury deny kind which may result from or site out of or reliance on the Information listed herein by any remote

Fig 8.2 Material Safety Data Sheet (freeenergystore.com)

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UNIT: 8.2 Waste Disposal

Unit Objectives



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

1. Describe how and why improper waste disposal is hazardous.

8.2.1 Introduction to waste management

Impact of dumping waste in the open:

- 1. Water pollution toxic liquid seeps into surface and groundwater
- 2. Soil pollution toxins seeps into the soil and surrounding vegetation
- 3. Dump fires waste decomposition releases inflammable methane which can result into explosion
- 4. Disease flies, rodents and pets can spread diseases from open Dumpsites
- 5. Other impacts visual ugliness, foul smell, bird menace which can be a hazard to Airplane

Waste is treated in an effluent treatment plant, as recommended by the supplier and then disposed of safely, in a specially designed landfill with protective measures to save the environment. Landfills also serve as a backup in case of malfunction in the plant treatment facility.

A good deal of waste is generated even in a simple household painting or polishing job. Such waste includes used sand paper, waste papers, used masking tapes, dust resulting from sanding, waste solvent, waste water after cleaning brushes and containers, empty containers, cotton rags, waste paint etc. It is important to plan, in advance how to minimise such waste and how to safely collect and dispose them off.

Never assume that it is the job of the customer to deal with the waste. Do not throw these sneakily into household waste bins. The waste collection systems in a house or a cooperative housing society may not be designed for such waste.

Discuss the options with the customer before starting the work. At the least most housing waste collectors (such as municipal trucks) would expect the waste to be segregated and handed over. Items that can be recycled (such as used tins and bottles should be sold to scrap dealers who deal in such scrap. Flammables such as solvent soaked cleaning rags should be disposed in a safe manner.

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UNIT: 8.3 Use Safety Tools and Personal Protective Equipment

Unit Objectives



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

1. List the different types of personal protective equipment mandatory while working

8.3.1 Ergonomic Lifting, Bending or Moving Equipment

Personal Protective Equipment (PPE) and their usage is not an option; it must be Practiced always without any deviations. In case of emergency, ensure you safeguard yourself first before helping others.

Recommended PPE's Gloves

- Nitrile gloves used against solvent handling / painting
- Leather gloves used against handling hot objects / blasting
- Surgical gloves made up of latex, general purpose
- Polyethylene and cotton gloves in powder coatings / painting

A painter should not use gloves as his hand should connect to the spray gun for grounding of his body. Use of special conductive gloves is recommended.



Fig 8.3 (i) Latex gloves for painting

(ii) Gloves for component handling non-skid

Masks

Solvent mask - Dry charcoal network is used as filter in mask used with cartridge or pre-filtered Powder mask - It is used while feeding and it is not efficient than solvent mask



Fig 8.3 (iii) Worker with a paint mask



Fig 8.3 (iv) Ear plugs

Ear plug/Muff

- Ear plugs are used to protect ears when large sounds are produced
- Ear plus- it can be used for 2 hours
- Non-disposable ear muffs these can be reused after washing with water



Fig 8.3 (v) Eye shield

Eye shield

- Eye shield must be used while spraying and working with dust and powder.
- Eyewash bottle is also used.
- An eye shield can be used for 8 hours

• Industrial barrier cream

It should be used before work on hand so that any paint can be removed easily.

- Renal hands rub cream
 - It is used after work to remove paint on hands.
- Head guards and steel toe shoes (safety shoes)

They are used while working on the shop floor.

Notes	<u> </u>			



- Notes		

UNIT: 8.4 Handling of Coating Materials and Equipment as per Safety and Environmental Standards

Unit Objectives



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

1. State how one can practice safe handling of materials and equipment used in painting and coating

8.4.1 Safety Measures for Handling Materials and Equipment -

The following are the safety measures and precautions for handling Coating materials and equipment at work:

- Read the instructions and warning label carefully.
- Be aware of the hazardous materials and chemicals in the product.
- Wear PPE properly as per instructions.
- Follow safety procedures for handling hazardous material.
- Always carry material in approved containers.
- Wash your hands after using unsafe material.
- Do not mix or combine hazardous materials without proper knowledge and safety measures.
- Store the paint materials properly, as directed on their labels to avoid spillage or any mishaps.

Other than the above mentioned, basic elements of combustion such as electrical equipment, matches and cigarettes should be eliminated from site.

- Notes 🗐 ———————————————————————————————————

UNIT: 8.5 Precautionary Measures

Unit Objectives



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

- 1. Learn about ergonomic lifting, bending and moving equipment
- 2. List what goes into a first aid kit
- 3. Learn the actions to take during emergency procedures
- 4. Identify different kinds of safety signs

8.5.1 Ergonomic Lifting, Bending or Moving Equipment and Supplies



Fig 8.4 (i) Correct lifting techniques (worldartsme.com)

8.5.2 First Aid



A well-stocked first aid kit is a must at the workplace. It is essential to check the kit regularly and have items such as medications, emergency phone numbers, allergy details of employees and medical assistance numbers in the first aid kit. All expired and out dated medication should be discarded.

As per Red Ross recommendation, following articles must feature in a first aid box

- 2 absorbent compress dressings
- 25 adhesive bandages (assorted sizes)

- 5 antibiotic ointment packets
- 5 antiseptic wipe packets
- 2 packets of aspirin
- 1 blanket
- 1 breathing barrier (with one-way valve)
- 1 instant cold compress
- 2 pair of no latex gloves (size: large)
- 2 hydrocortisone ointment packets Scissors
- 1 roller bandage (3 inches wide)
- 1 roller bandage (4 inches wide)
- 5 sterile gauze pads
- 5 sterile gauze pads (4 x 4 inches)
- Oral thermometer (non-mercury)
- 2 triangular bandages
- Tweezers

8.5.3 Emergency Procedures

On rare occasions, you may experience an emergency while working in a coating plant such as:

- Fire
- Medical emergency
- Armed hold up/robbery
- Bomb threat
- Natural disaster

Find out the emergency procedures and evacuation plan for emergency and obtain information on the evacuation plan of the company. Emergency procedures are reviewed from time to time based on the actual incidents. Remember your safety is of utmost importance in case of any emergency. Please refer to your supervisor/manager for specific information regarding your workplace.

- Evacuation routes and exits are prominently displayed in the building and premises.
- Emergency exits, and evacuation routes must comply with local building codes.

Notes]			

You must know

- Preferred method of reporting
- Evacuation policy and procedures
- Emergency escape procedures and route assignments
- List of emergency contact numbers
- inside and outside the facility
- Procedure for employees during
- shutdown of critical operations

You must locate

- Nearest telephone
- Identified restricted areas
- Fire alarm
- Fire extinguisher and fire blankets
- Safety warning tags and signs
- Learn facility alarms, evecuation
- Procedures and general emergency
- Protocols

FIRE

- Raise fire alarm
- Use firefighting equipment
- Understand high level of smoke is a hazards Increased smoke can decrease visibility and be toxic
- Take a secure escape route
- Notify appropriate personnel immediately (Supervisor, fire safety warden etc.)

MEDICAL EMERGENCY

- Person trained in CPR (Cardiopulmonary resuscitation) must be contacted
- Dial emergency number to contact hospital andambulance
- Inform supervisor
- Inform family members

8.5.4 Display Safety Signs

- Learn to respect safety signs
- Learn to display them at appropriate places
- It is crucial for your safety and safety of other people
- Never take safety sign instructions lightly















8.5.5 Safety Checklist —

As a paint /powder applicator, for all emergency situations, you must

- Know how to report a safety incident
- Understand the evacuation policy and procedures
- Have access to the list of emergency contact numbers inside and outside the facility
- Understand the procedure for employees during shutdown of critical operations
- Never disconnect hose under pressure
- Not leave pressurised unit unattended
- Never point the spray gun at human body
- Ensure the gun has required trigger guard
- Use electrically conductive hose in airless applications
- Ensure that no ignition source is present when flammable materials are used
- Minimise use of low flash point materials
- Check for adequate ventilation

GENERAL SAFETY	 Locate nearest telephone Identify restricted areas Locate fire alarm Locate fire extinguisher and fire blankets Locate moving objects, cranes, and traffic Identify and observe safety warning tags and signs Learn facility alarms, evacuation procedures, and general emergency protocols
LADDERS	 Periodically inspect for loose, worn, or damaged rungs Never carry any tools in hand while climbing Always face ladder while climbing Never jump from a ladder Guard against danger of metal ladder coming in contact with electric power lines Secure the ladder

SCAFFOLDING	 Periodically inspect for damage or deterioration Ensure scaffolding is plumb and level Ensure hand railing is provided on all scaffolding Never ride scaffolding on rollers when it is being moved Verify inspection tags are valid and in place at all times
POWER TOOLS	 Ensure safety guards are fitted and operational Ensure dust collection systems are operational when working with hazardous materials
ABRASIVE BLAST	 Ensure that the following are installed and in working order: Deadman valve Pressure control valves Adequate moisture and oil separators Protective clothing (hoods and gloves) Filtered and regulated air-supplied respirator Make certain that: Entire system is grounded, including hoses, operator, and work piece Hose couplings are wired shut Abrasive hose is stored in a dry place Abrasive hose is curved around, not bent at 90° angle Nozzle is never pointed at human body or breakable object Abrasive hose is inspected for damage and wear
SPRAY APPLICATION	 Ensure no ignition sources are present Minimise use of low flash point materials Adequate ventilation must always be provided Ensure spray booth is clear of exhaust fumes from previous spraying Ensure no rags become soaked with flammable liquid in spray area
PERSONAL PROTECTION	 Goggles and safety glasses must be worn at all times Regulated air respirator must be used always Operator must always be positioned upwind of object being sprayed

HOSE AND GUN	 Hoses must be inspected periodically for weak and worn spots Hose connections must be correct and tightened Hose must never be disconnected or re coupled while under pressure Pressurised unit must never be left unattended Gun must be grounded through hose connections Operator uses electrically conductive hose in airless applications.
TEST EQUPMENT	 Holiday detectors must always be grounded No volatile substances must be present when high voltage detectors are in use Equipment must be suitable for the environment in which it is being used, e.g., intrinsically safe in hazardous confined spaces

Tips 🗓



- 1. Working in a safe, environmentally clean manner without adversely impacting your health and that of your co-workers is not an option, but a mandatory requirement in any job.
- 2. Be conscious of the health hazards posed by various chemicals and substances you use and learn and practice ways of mitigating them.
- 3. Always learn to respect safety signs.
- 4. Make safe working a habit.
- 5. Never take safety sign instructions lightly.

Notes 🗐 —			

Exercise 🕝 —



Answer the following questions:		
1. What are primary hazards?		
2. Explain various types of gloves in PPE.		
3. List any five safety precautions at work.		
Write a short note on:		
a. Ear plug		
b. Eye shield		
c. Masks d. Gloves		
e. Waste Disposal		









9. Employability and Entreprenuership Skills

Unit 9.1 - Personal Strength and Value Systems

Unit 9.2 - Digital Literacy - A Recap

Unit 9.3 - Money Matters

Unit 9.4 - Preparing for Employment and Self Employment

Unit 9.5 - Understanding Entrepreneurship

Unit 9.6 - Preparing to be an Entrepreneur



Key Learning Outcomes | 💆



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

- 1. Explain the meaning of health
- 2. List common health issues
- 3. Discuss tips to prevent common health issues
- 4. Explain the meaning of hygiene
- 5. Discuss the purpose of Swacch Bharat Abhiyan
- 6. Explain the meaning of habit
- 7. Discuss ways to set up a safe work environment
- 8. Discuss critical safety habits to be followed by employees
- 9. Explain the importance of self-analysis
- 10. Discuss motivation with the help of Maslow's Hierarchy of Needs
- 11. Discuss the meaning of achievement motivation
- 12. List the characteristics of entrepreneurs with achievement motivation
- 13. List the different factors that motivate you
- 14. List your strengths and weaknesses
- 15. List the characteristics of highly creative people
- 16. List the characteristics of highly innovative people
- 17. Discuss the importance of anger management
- 18. Describe anger management strategies
- 19. Discuss tips for anger management
- 20. Discuss the causes of stress
- 21. Discuss the symptoms of stress
- 22. Discuss tips for stress management
- 23. Identify the basic parts of a computer
- 24. Identify the basic parts of a keyboard
- 25. Recall basic computer terminology
- 26. Recall the functions of basic computer keys
- 27. Discuss the main applications of MS Office
- 28. Discuss the benefits of Microsoft Outlook
- 29. Discuss the different types of e-commerce
- 30. List the benefits of e-commerce for retailers and customers

- 31. Discuss how the Digital India campaign will help boost e-commerce in India
- 32. Describe how you will sell a product or service on an e-commerce platform
- 33. Discuss the importance of saving money
- 34. Discuss the benefits of saving money
- 35. Discuss the main types of bank accounts
- 36. Describe the process of opening a bank account
- 37. Differentiate between fixed and variable costs
- 38. Describe the main types of investment options
- 39. Describe the different types of insurance products
- 40. Describe the different types of taxes
- 41. Discuss the uses of online banking
- 42. Discuss the main types of electronic funds transfers
- 43. Discuss the steps to prepare for an interview
- 44. Discuss the steps to create an effective Resume
- 45. Discuss the most frequently asked interview questions
- 46. Discuss how to answer the most frequently asked interview questions
- 47. Discuss basic workplace terminology
- 48. Discuss the concept of entrepreneurship
- 49. Discuss the importance of entrepreneurship
- 50. Describe the characteristics of an entrepreneur
- 51. Describe the different types of enterprises
- 52. List the qualities of an effective leader
- 53. Discuss the benefits of effective leadership
- 54. List the traits of an effective team
- 55. Discuss the importance of listening effectively
- 56. Discuss how to listen effectively
- 57. Discuss the importance of speaking effectively
- 58. Discuss how to speak effectively
- 59. Discuss how to solve problems
- 60. List important problem-solving traits
- 61. Discuss ways to assess problem solving skills
- 62. Discuss the importance of negotiation
- 63. Discuss how to negotiate
- 64. Discuss how to identify new business opportunities
- 65. Discuss how to identify business opportunities within your business
- 66. Explain the meaning of entrepreneur
- 67. Describe the different types of entrepreneurs

- 68. List the characteristics of entrepreneurs
- 69. Recall entrepreneur success stories
- 70. Discuss the entrepreneurial process
- 71. Describe the entrepreneurship ecosystem
- 72. Discuss the purpose of the Make in India campaign
- 73. Discuss key schemes to promote entrepreneurs
- 74. Discuss the relationship between entrepreneurship and risk appetite
- 75. Discuss the relationship between entrepreneurship and resilience
- 76. Describe the characteristics of a resilient entrepreneur
- 77. Discuss how to deal with failure
- 78. Discuss how market research is carried out
- 79. Describe the 4 Ps of marketing
- 80. Discuss the importance of idea generation
- 81. Recall basic business terminology
- 82. Discuss the need for CRM
- 83. Discuss the benefits of CRM
- 84. Discuss the need for networking
- 85. Discuss the benefits of networking
- 86. Discuss the importance of setting goals
- 87. Differentiate between short-term, medium-term and long-term goals
- 88. Discuss how to write a business plan
- 89. Explain the financial planning process
- 90. Discuss ways to manage your risk
- 91. Describe the procedure and formalities for applying for bank finance
- 92. Discuss how to manage your own enterprise
- 93. List important questions that every entrepreneur should ask before starting an enterprise

UNIT 9.1: Personal Strength and Value System

- Unit Objectives



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

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

9.1.1 Health, Habit and 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.

•	Get minimum 7-8 hours of sleep every night.	
•	A void checking email first thing in the morning and right before you go to bed at night.	
•	Don't skip meals – eat regular meals at correct meal times.	
•	Read a little bit every single day.	
•	Eat more home cooked food than junk food.	
•	Stand more than you sit.	
•	Drink a glass of water first thing in the morning and have at least 8 glasses of water through the day.	
•	Go to the doctor and dentist for regular checkups.	
•	Exercise for 30 minutes at least 5 days a week.	
•	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.

•	Have a bath or shower every day with soap and wash your hair with shampoo week.	2-3	times]
•	Wear a fresh pair of clean undergarments every day.]
•	Brush your teeth in the morning and before going to bed.]
•	Cut your fingernails and toenails regularly.]
•	Wash your hands with soap after going to the toilet.]
•	Use an antiperspirant deodorant on your underarms if you sweat a lot.]
•	Wash your hands with soap before cooking or eating.]
•	Stay home when you are sick, so other people don't catch what you have.]
•	Wash dirty clothes with laundry soap before wearing them again.]
•	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 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



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

9.1.2 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



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

9.1.3 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.

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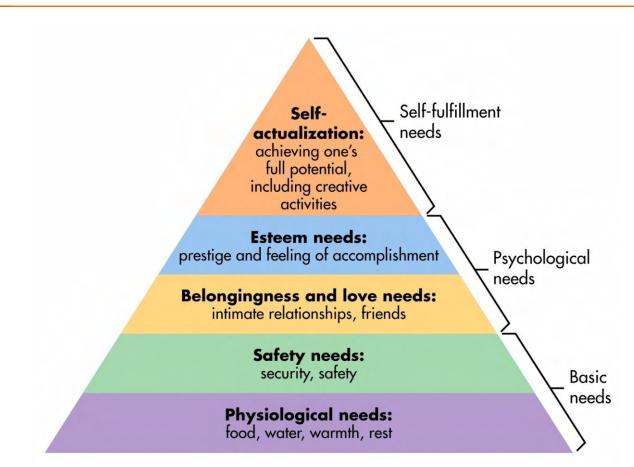


Fig. 9.1 Maslow's Hierarchy Needs

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 Entrepreneur with Achievement Motivation:

Entrepreneurs with achievement motivation can be described as follows:

- Unafraid to take risks for personal accomplishment
- Love being challenged
- Future-oriented
- Flexible and adaptive
- Value negative feedback more than positive feedback
- Think about it:
- How many of these traits do you have?
- Very persistent when it comes to achieving goals
- Extremely courageous
- Highly creative and innovative
- Restless constantly looking to achieve more
- Feel personally responsible for solving problems
- Can you think of entrepreneurs who display these traits?

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:

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.

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 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.

9.1.4 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:

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

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.
- 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.

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.





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

9.1.5 Creativity and 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 Person

- 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, process, significantly improving on an existing product, service or process.

Characteristics of Highly Innovative Persons

- 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.

9.1.6 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



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

9.1.7 Anger Management

What is Anger Management?

Anger management is the process of:

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

Anger management does not mean suppressing anger

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:

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

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

Strategy 2: Cognitive Restructuring

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

Strategy 3: Problem Solving

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

Strategy 4: Better Communication

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

Strategy 5: Changing Your Environment

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

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



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

9.1.8 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

Internal Causes:

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

External Causes

- 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

Cognitive Symptoms	Emotional Symptoms		
 Memory problems Concentration issues Lack of judgement Pessimism Anxiety Constant worrying 	 Depression Agitation Irritability Loneliness Anxiety Anger 		

Physical Symptoms	Behavioral Symptoms
 Aches and pain Diarrhea or constipation Nausea Dizziness Chest pain and/or rapid heartbeat Frequent cold or flu like feelings 	 Increase or decrease in appetite Over sleeping or not sleeping enough Withdrawing socially Ignoring responsibilities Consumption of alcohol or cigarettes Nervous habits like nail biting, pacing etc.

Table 9.1 Symptoms of Stress

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, defensive, passively
- Practice relaxation techniques like meditation, yoga or tai chi when you start feeling angry
- 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



- ${\bf 1.}\ \ Force\ yourself\ to\ smile\ even\ if\ you\ feel\ stressed.\ Smiling\ makes\ us\ feel\ relaxed\ and\ happy.$
- 2. Stop yourself from feeling and thinking like a victim. Change your attiude and focus on being proactive.

UNIT 9.2: Digital Literacy - A Recap

- Unit Objectives



At the end of this unit, the trainee 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 the functions of basic computer keys
- 5. Discuss the main applications of MS Office
- 6. Discuss the benefits of Microsoft Outlook
- 7. Discuss the different types of e-commerce
- 8. List the benefits of e-commerce for retailers and customers
- 9. Discuss how the Digital India campaign will help boost e-commerce in India
- 10. Describe how you will sell a product or service on an e-commerce platform

9.2.1 Computer and Internet basics

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
- 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

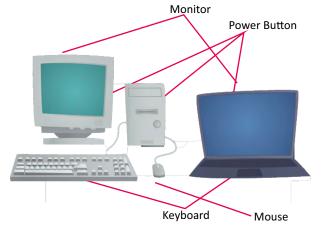


Fig. 9.2 Parts of Computer

Basic Parts of a Keyboard

- 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

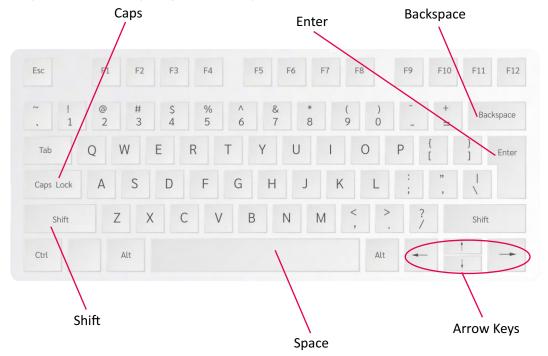


Fig. 9.3 Parts of Keyboard

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

Tips



- 1. 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)
- 2. Press the Ctrl key and press the + or to increase and decrease the size of text.
- 3. Press F5 or Ctrl + R to refresh or reload a web page.

9.2.2 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 to 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 Outloopkro grams.
- 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



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

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 ecommerce 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



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

http://www.digitalindia.gov.in/

– Notes 🗐			

UNIT 9.3: Money Matters

Unit Objectives



At the end of this unit, the trainee 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

9.3.1 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.

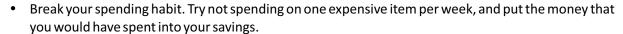
Benefits of Saving

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 ourself 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



• Decide that you will not buy anything on certain days or weeks and stick to your word.

9.3.2 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.

Saving 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 ish 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!

	Notes 🗐 -			
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Tips



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

9.3.3 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.

Table 9.2 Differences Between Fixed and Variable Costs

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.

9.3.4 Investments, Insurance and Taxes

Investments

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 trade 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.

nsurance

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

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.

9.3.5 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 Fund Transfer

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 electronic 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 bank, 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 information:

- Recipient's name
- Recipient's bank's name
- Recipient's account number
- 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

- Name of the beneficiary
- Beneficiary's account number
- Beneficiary's bank address
- Beneficiary'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.

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

To transfer money through IMPS, the you need to:

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

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

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

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

- The beneficiary's mobile number
- The transfer amount
- The beneficiary's MMID
- 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.

- Notes 🗐			

• Difference between NEFT, RTGS and IMPS

Criteria	NEFT	RTGS	IMPS
Settlement	Done in batches	Real-time	Real-time
Full form	National Electronic Fund Transfer	Real Time Gross Settlement	Real Time Gross Settlement
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

Table 9.3 Differences Between NEFT, RTGS & IMPS

Tips



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

Notes 🗐 _			

UNIT 9.4: Preparing for Employment and Self Employment

- Unit Objectives



At the end of this unit, the trainee 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

9.4.1 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:

Research the organization that you are having the interview with.

- Studying the company beforehand will help you be more prepared at the time of the interview.
 Your knowledge of the organization will help you answer questions at the time of the interview, and will leave you looking and feeling more confident. This is sure to make you stand out from other, not as well informed, candidates.
- Look for background information on the company. Try and find an overview of the company and its industry profile.
- Visit the company website to get a good idea of what the company does. A company website offers a wealth of important information. Read and understand the company's mission statement. Pay attention to the company's products/services and client list. Read through any press releases to get an idea of the company's projected growth and stability.
- Note down any questions that you have after your research has been completed.

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

Go through the most typical interview questions asked, and prepare your responses.

 Remember, in most interviews a mix of resume-based, behavioural 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

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.

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.

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.

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 querirs that you would like to discuss. This is the time for you to refer to the notes you made while studing 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



- 1. Ask insightful and probing questions.
- 2. 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.

9.4.2 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:

Khyati Mehta

Breach Candy, Mumbai – India Contact No: +91 2223678270

khyati.mehta000@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 Floor Supervisor graduated from University of Delhi having 6 years of experience in managing a retail outlet
- Core expertise lies in managing retail staff, including cashiers and people working on the floor

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

 <Enter qualification> <enter date of qualification> from <enter name of institute> with <enter percentage or any other relevant scoring system>

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 donot have any technical skills, you can omit this step.

Example:

Technical Skills

· <Enter your technical skill here, if applicable>

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: < Insert project title>

Organization: < Insert the name of the organization for whom you did the project>

Platform Used: <Insert the platform used, if any>

Contribution: <Insert your contribution towards this project> **Description:** <Insert a description of the project in one line>

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:

Step 8: Write Your Personal Details

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

Date of birth

Gender & marital status

Nationality

• Languages known

Example:

Personal Details:

Date of Birth: 25th May, 1981
 Gender and marital Status: Female, married

Nationality: Indian

• Language Known: Hindi, English, Bengali, French

Tips



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

9.4.3 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 compan'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



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

9.4.4 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 service 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 favorably 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.

Notes 🗐 ——		

UNIT 9.5: Understanding Entrepreneurship

– Unit Objectives 🥝



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

- 1. Discuss the concept of entrepreneurship
- 2. Discuss the importance of entrepreneurship
- 3. Describe the characteristics of an entrepreneur
- 4. Describe the different types of enterprises
- 5. List the qualities of an effective leader
- 6. Discuss the benefits of effective leadership
- 7. List the traits of an effective team
- 8. Discuss the importance of listening effectively
- 9. Discuss how to listen effectively
- 10. Discuss the importance of speaking effectively
- 11. Discuss how to speak effectively
- 12. Discuss how to solve problems
- 13. List important problem solving traits
- 14. Discuss ways to assess problem solving skills
- 15. Discuss the importance of negotiation
- 16. Discuss how to negotiate
- 17. Discuss how to identify new business opportunities
- 18. Discuss how to identify business opportunities within your business
- 19. Explain the meaning of entrepreneur
- 20. Describe the different types of entrepreneurs
- 21. List the characteristics of entrepreneurs
- 22. Recall entrepreneur success stories
- 23. Discuss the entrepreneurial process
- 24. Describe the entrepreneurship ecosystem
- 25. Discuss the purpose of the Make in India campaign
- 26. Discuss key schemes to promote entrepreneurs
- 27. Discuss the relationship between entrepreneurship and risk appetite
- 28. Discuss the relationship between entrepreneurship and resilience

- $29. \ \ Describe the characteristics of a resilient entrepreneur$
- 30. Discuss how to deal with failure

9.5.1 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:

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

Characteristics of a good Entrepreneur:

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:

- Dhirubhai Ambani (Reliance)
- Dr. Karsanbhai Patel (Nirma)
- Azim Premji (Wipro)
- Anil Agarwal (Vedanta Resources)

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



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

9.5.2 Leadership & Teamwork

Leadership and Leaders

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

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

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

Leadership Qualities That All Entrepreneurs Need

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

- **Pragmatism:** This means having the ability to highlight all obstacles and challenges, in order to resolve issues and reduce risks.
- **Humility:** This means admitting to mistakes often and early, and being quick to take responsibility for your actions. Mistakes should be viewed as challenges to overcome, not opportunities to point blame.

- **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.
- **Authenticity:** This means showing both, your strengths and your weaknesses. It means being human and showing others that you are human.
- **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.
- **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:

- Unity of purpose: All the team members should clearly understand and be equally committed to the purpose, vision and goals of the team.
- Great communication skills: Team members should have the ability to express their concerns, ask questions and use diagrams, and charts to convey complex information.
- The ability to collaborate: Every member should feel entitled to provide regular feedback on new ideas.
- 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.
- Visionary members: The team should have the ability to anticipate problems and act on these potential problem before they turn into real problems.
- 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.
- 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



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

9.5.3 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

The Importance of Speaking 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 4



- 1. If you're finding it difficult to focus on what someone is saying, try repeating their words in your head.
- 2. 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.

9.5.4 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
- Not panicking
- Asking the right questions
- Having a positive attitude
- Being proactive
- 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:

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

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.

Table 9.4 Steps to help you negotiate

Tips Q



- 1. Know exactly what you want before you work towards getting it
- $2. \ \ Give more importance to listening and thinking, than speaking$
- 3. Focus on building a relationship rather than winning
- 4. Remember that your people skills will affect the outcome
- 5. Know when to walk away sometimes reaching an agreement may not be possible

9.5.5 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 Opportunities?

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 to looking for an opportunities

Consider the following when looking for business opportunities:

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

Ways to identifies new business opportunities

- Identify Market Inefficiencies: When looking at a market, consider what inefficiencies are present in the market. Think about ways to correct these inefficiencies
- Remove Key Hassles: Rather than create a new product or service, you can innovatively improve a product, service or process

- Create Something New: Think about how you can create a new experience for customers, based on existing business models
- Pick a Growing Sector/Industry: Research and find out which sectors or industries are growing and think about what opportunities you can tap in the same
- Think About Product Differentiation: If you already have a product in mind, think about ways to set it apart from the existing ones

Ways to Identify Business Opportunities Within Your Business

SWOT Analysis

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

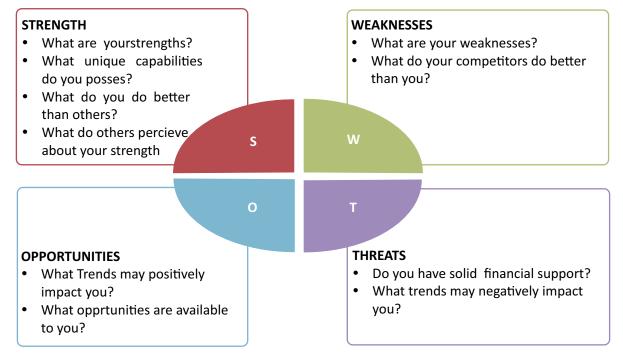


Fig. 9.4 SWOT Analysis

Consider the following when looking for business opportunities:

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

Establishing Your USP

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

Opportunity Analysis

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

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

Tips



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

9.5.6 Entrepreneurship Support Eco - System

Who 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:

- 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.
- 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.
- 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.
- 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:

Dhiru bhai 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

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.

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

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

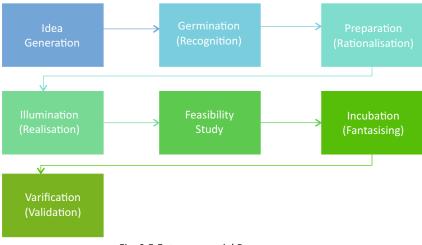


Fig. 9.5 Entrepreneurial Process

Introduction to the Entrepreneurship Ecosystem

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:

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

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

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

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

- Notes 🗐 –			

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

Networks

- Entrepreneur's networks
- Diaspora networks
- Multinational corporations

Labour

- General degrees
- Specific entrepreneurship training

Policy Market **Entrepreneurship** Human Capital

Financial Capital

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

Infrastructure

- Telecommunications
- **Transportation &** logistics
- Energy
- Zones, incubation centres, clusters

Non- Government Institution

- Entrepreneurship promotion in nonprofits
- Conferences
- **Business Plan contests**
- Entrepreneur friendly association

Success Stories

- Visible successes
- Wealth generation for founders
- International reputation

Social Norms

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

Support Professions

- Legal
- Accounting
- Investment bankers

Fig. 9.6 Entrepreneurship at a Glance

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

Key Schemes to Promote Entrepreneurs

The government offers many schemes to support entrepreneurs. These schemes are run by various

Ministries/Departments of Government of India to support First Generation Entrepreneurs. Take a look at a few key schemes to promote entrepreneurship:

Name of the Scheme

- Pradhan Mantri MUDRA Yojana Micro Units Development and Refinance Agency (MUDRA),
- STAND UP INDIA
- Prime Minister Employment Generation Programme (PMEGP)
- International Cooperation
- Performance and Credit Rating
- Marketing Assistance Scheme
- Reimbursement of Registration Fee for Bar Coding
- Enable Participation of MSMEs in State/District level Trade Fairs and Provide Funding Support
- Capital Subsidy Support on Credit for Technology up gradation
- Credit Guarantee Fund for Micro and Small Enterprise (CGFMSE)
- Reimbursement of Certification Fees for Acquiring ISO Standards
- Agricultural Marketing
- Small Agricultural Marketing
- Mega Food Park
- Adivasi Mahila Sashaktikaran Yojana

Pradhan Mantri MUDRA Yojana - Micro Units Development and Refinance Agency (MUDRA)

Description

Under the aegis support of Pradhan Mantri MUDRA Yojana, MUDRA has already created its initial products/schemes. The interventions have been named 'Shishu', 'Kishor' and 'Tarun' to signify the stage of growth/development and funding needs of the beneficiary micro unit/entrepreneur and also provide a reference point for the next phase of graduation/growth to look forward to:

- a. Shishu: Covering loans upto Rs.50,000/-
- b. Kishor: Covering loans above Rs. 50,000/- and upto Rs. 5 lakh
- c. Tarun: Covering loans above Rs. 5 lakh to Rs. 10 lakh

Who can apply?

- Any Indian citizen who has a business plan for a non-farm sector income generating activity such as manufacturing, processing, trading or service sector and whose credit need is less than Rs.10 lakh can approach either a Bank, MFI, or NBFC for availing of MUDRA loans under Pradhan Mantri Mudra Yojana (PMMY).
- Stand Up India

Description

The objective of the Standup India scheme is to facilitate bank loans between Rs.10 lakh and Rs.1 crore to at least one Schedule Caste (SC) or Scheduled Tribe (ST) borrower and at least one woman borrower per bank branch for setting up a Greenfield enterprise. This enterprise may be in manufacturing, services or the trading sector. In case of non-Individual enterprises at least 51% of the shareholding and controlling stake should be held be either an SC/ST or Woman Entrepreneur.

Who can apply?

ST, SC & Women

• Prime Minister Employment Generation Programme (PMEGP)

Description

The Scheme is implemented by Khadi and Village Industries Commission (KVIC), as the nodal agency at the National level. At the State level, the Scheme is implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs) and District Industries Centres (DICs) and banks. The Government subsidy under the Scheme is routed. by KVIC through identified banks for eventual distribution to the beneficiaries/entrepreneurs in their bank accounts.

Nature of assistance

The maximum cost of the project/unit admissible under manufacturing sector is Rs.25 lakh and under business/service sector is Rs.10 lakh. Levels of funding under PMEGP

Categories of beneficiaries under	Beneficiary's	Rate of Subsidy
Area (location of project/unit)		Urban Rural
General Category	10%	15%
Special (including SC / ST / OBC / Minorities / Women, Exservicemen, Physically handicapped, NER, Hill and Border areas, etc.	05%	25% 35%

Table 9.5 Levels of funding under PMEGP

The balance amount of the total project cost will be provided by Banks as term loan as well as working capital.

Who can apply?

Any individual, above 18 years of age. At least VIII standard pass for projects costing above Rs.10 lakh in the manufacturing sector and above Rs.5 lakh in the business/service sector. Only new projects are considered for sanction under PMEGP. Self Help Groups (including those belonging to BPL provided that they have not availed benefits under any other Scheme), Institutions registered under Societies Registration Act,1860; Production Co-operative Societies, and Charitable Trusts are also eligible. Existing Units (under PMRY, REGP or any other scheme of Government of India or State Government) and the units that have already availed Government Subsidy under any other scheme of Government of India or State Government are NOT eligible.

• International Cooperation

Description

The Scheme would cover the following activities:

- a. Deputation of MSME business delegations to other countries for exploring new areas of technology infusion/upgradation, facilitating joint ventures, improving market of MSMEs products, foreign collaborations, etc
 - b. Participation by Indian MSMEs in international exhibitions, trade fairs and buyer-seller meets in foreign countries as well as in India, in which there is international participation
 - c. Holding international conferences and seminars on topics and themes of interest to the MSME

Nature of assistance

IC Scheme provides financial assistance towards the airfare and space rent of entrepreneurs. Assistance is provided on the basis of size and the type of the enterprise.

Who can apply?

- a. State/Central Government Organisations;
- b. Industry/Enterprise Associations; and
- c. Registered Societies/Trusts and Organisations associated with the promotion and development of MSMEs

• Performance and Credit Rating for Micro and Small Enterprises

Description

The objective of the Scheme is to create awareness amongst micro & small enterprises about the strengths and weaknesses of their operations and also their credit worthiness.

Nature of assistance

Turn Over	Fee to be reimbursed by Ministry of MSME
Up to Rs.50 lacs	75% of the fee charged by the rating agency subject to a ceiling Rs.15,000/-
Above Rs.50 lacs to Rs.200 lacs	75% of the fee charged by the rating agency subject to a ceiling of Rs.30,0001/-
Above Rs.200 lacs	75% of the fee charged by the rating agency subject to a ceiling of Rs.40,000/-

Table 9.6 Performance and Credit Rating for Micro and Small Enterprises

Who can apply?

Any enterprise registered in India as a micro or small enterprise is eligible to apply.

• Marketing Assistance Scheme

Description

The assistance is provided for the following activities:

- a. Organizing exhibitions abroad and participation in international exhibitions/trade fairs
- b. Co-sponsoring of exhibitions organized by other organisations/industry associations/agencies
- c. Organizing buyer-seller meets, intensive campaigns and marketing promotion events

Nature of assistance

Financial assistance of up to 95% of the airfare and space rent of entrepreneurs. Assistance is provided on the basis of size and the type of the enterprise. Financial assistance for co-sponsoring would be limited to 40% of the net expenditure, subject to maximum amount of Rs.5 lakh.

Who can apply?

MSMEs, Industry Associations and other organizations related to MSME sector.

· Reimbursement of Registration Fee for Bar Coding

Description

The financial assistance is provided towards 75% reimbursement of only one-time registration fee and 75%

of annual recurring fee for first three years paid by MSEs to GS1 India for using bar coding.

Nature of assistance

Funding support for reimbursement of 75% of one time and recurring bar code registration fees.

Who can apply?

All MSMEs with EM registration.

Enabling Participation of MSMEs in State/District Level Trade Fairs and Provide Funding Support Description

Provide marketing platform to manufacturing MSMEs by enabling their participation in state/district level exhibitions being organized by state/district authorities/associations.

Nature of assistance

1. Free registration for participating in trade fairs

Note: The selection of participants would be done by the MSME-DIs post the submission of application.

- 2.Reimbursement of 50% of to and fro actual fare by shortest distance/direct train (limited to AC II tier class) from the nearest railway station/bus fare to the place of exhibition and 50% space rental charges for MSMEs (General category entrepreneurs).
- 3. For Women/SC/ST entrepreneurs & entrepreneurs from North Eastern Region Govt. of India will reimburse 80% of items listed above in Point (2).

Note: The total reimbursement will be max. Rs.30,000/- per unit for the SC/ST/Women/Physically Handicapped entrepreneurs, while for the other units the max. limit will be Rs.20,000/- per person per MSME unit.

Note: The participant is required to submit follow-up proofs post attending the event to claim reimbursement. The proofs can be submitted after logging in online under the section "My Applications" or directly contacting a DI office.

Who can apply?

All MSMEs with EM registration.

• Capital Subsidy Support on Credit for Technology Upgradation

Description

MSMEs can get a capital subsidy (~15%) on credit availed for technology upgradation.

Nature of assistance

Financial assistance for availing credit and loan.

Who can apply?

- 1. Banks and financial institutions can apply to DC-MSME for availing support
- 2. MSMEs need to directly contact the respective banks for getting credit and capital subsidy

How to apply?

If you are a financial institution, click on the "Apply Now" button or else you can also directly contact the Office of DC-MSME. You can view the contact details of Office of DC-MSME. If you are an MSME, directly contact the respective banks/financial institutions as listed in the scheme guidelines.

Provision of Collateral Free Credit for MSMEs

Description

Banks and financial institutions are provided funding assistance under this scheme so that they can in turn lend collateral free credit to MSMEs.

Nature of assistance

Funding support to banks and financial institutions for lending collateral-free credit to MSMEs.

Who can apply?

Banks and financial institutions can apply to office of DC-MSME/MSME-DIs for availing support. MSMEs need to directly contact the respective banks for getting credit.

Reimbursement of certification fees for acquiring ISO standards

 $ISO\,9000/ISO\,14001\,Certification\,Reimbursement.$

Description

The Gol assistance will be provided for one-time reimbursement of expenditure to such MSME manufacturing units which acquire ISO 18000/ISO 22000/ISO 27000 certification.

Nature of assistance

Reimbursement of expenditure incurred on acquiring ISO standards.

Who can apply?

MSMEs with EM registration.

Agricultural Marketing

Description

A capital investment subsidy for construction/renovation of rural go downs. Creation of scientific storage capacity and prevention of distress sale.

Nature of assistance

Subsidy @ 25% to farmers, 15% of project cost to companies.

Who can apply?

NGOs, SHGs, companies, co-operatives.

• Small Agricultural Marketing

Description

Business development description provides venture capital assistance in the form of equity, and arranges training and visits of agri-preneurs

Farmers' Agriculture Business Consortium

Business development description provides venture capital assistance in the form of equity, and arranges training and visits of agri-preneurs.

Nature of assistance

Financial assistance with a ceiling of Rs.5 lakh.

Who can apply?

Individuals, farmers, producer groups, partnership/propriety firms, SGHs, agri-preneurs, etc.

Mega Food Park

Description

Mechanism to link agricultural production and market to maximize value addition, enhance farmers income, create rural employment.

Nature of assistance

One-time capital grant of 50% of project cost with a limit of Rs.50 crore.

Who can apply?

Farmers, farmer groups, SHGs.

• Adivasi Mahila Sashaktikaran Yojana

Description

Concessional scheme for the economic development of ST women.

Nature of assistance

Term loan at concessional rates upto 90% of cost of scheme.

Who can apply?

Scheduled Tribes Women.

Tips



1. 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.

9.5.7 Risk Appetite & Resilience: Entrepreneurship and Risk

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.
- 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
- Ability to diversify and expand
- Strong social connections
- Survivor attitude
- Skill to learn from setbacks
- Cash-flow conscious habits
- Ability to look at the bigger picture
- 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.

9.5.8 Success and Failure Entrepreneurship

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 veryexpensive 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 🖳



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

Notes 🗐	-		

UNIT 9.6: Preparing to be an Entrepreneur

Unit Objectives



At the end of this unit, the trainee 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. Discuss 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

9.6.1 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

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

Some questions to ask yourself are:

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



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

9.6.2 Business Entity Concept

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
- **Business Transactions:** There are three types of business transactions. These are:
 - **Simple Transactions** Usually a single transaction between a vendor and a customer. For example: Buying a cup of coffee.
 - **Complex Transactions** These transactions go through a number of events before they can be completed. For example: Buying a house.
 - **Ongoing transactions –** These transactions usually require a contract. For example: Contract with a vendor.

Basic Accounting Formulas

Take a look some important accounting formulas that every entrepreneur needs to know.

1. The Accounting Equation: This is value of everything a company owns and uses to conduct its business.

Formula: Assets = Liability + Owner's Equity

2. Net Income: This is the profit of the company.

Formula: Net Income = Revenues - Expenses

3. Break-Even Point: This is the point at which the company will not make a profit or a loss. The total cost and total revenues are equal.

Formula: Break-Even = Fixed Costs/Sales Price - Variable Cost per Unit

4. Cash Ratio: This tells us about the liquidity of a company.

Formula: Cash Ratio = Cash/Current Liabilities

5. Profit Margin: This is shown as a percentage. It shows what percentage of sales are left over after all the expenses are paid by the business.

Formula: Profit Margin = Net Income/Sales

6. Debt-to-Equity Ratio: This ratio shows how much equity and debt a company is using to finance its assets, and whether the shareholder equity can fulfill obligations to creditors if the business starts making a loss.

Formula: Debt-to-Equity Ratio = Total Liabilities/Total Equity

7. Cost of Goods Sold: This is the total of all costs used to create a product or service, which has been sold

Formula: Cost of Goods Sold = Cost of Materials/Inventory - Cost of Outputs

8. Return on Investment (ROI): This is usually shown as a percentage. It calculates the profits of an investment as a percentage of the original cost.

Formula: ROI = Net Profit/Total Investment * 100

9. Simple Interest: This is money you can earn by initially investing some money (the principal).

Formula:

A = P(1 + rt); R = r * 100

Where:

A = Total Accrued Amount (principal + interest)

P = Principal Amount

I = Interest Amount, r = Rate of Interest per year in decimal; r = R/100

t = Time Period involved in months or years

10. Annual Compound Interest: The calculates the addition of interest to the principal sum of a loan or deposit.

Formula:

 $A = P(1 + r/n) ^nt$:

Where: A = the future value of the investment/loan, including interest

P = the principal investment amount (the initial deposit or loan amount)

r = the annual interest rate (decimal)

n = the number of times that interest is compounded per year

t = the number of years the money is invested or borrowed for

9.6.3 CRM and Networking

What is CRM?

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

The Need for CRM

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

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

Benefits of CRM

CRM has a number of important benefits:

- It helps improve relations with existing customers which can lead to:
 - Increased sales

- Identification of customer needs
- Cross-selling of products
- It results in better marketing of one's products or services
- It enhances customer satisfaction and retention
- It improves profitability by identifying and focusing on the most profitable customers

What is Networking?

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

1.

2. 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



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

9.6.4 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 structures
 - 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

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.

– Notes					

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



- 1. Ensure all the important elements are covered in your plan.
- 2. Scrutinize the numbers thoroughly.
- 3. Be concise and realistic.
- 4. Be conservative in your approach and your projections.
- 5. Use visuals like charts, graphs and images wherever possible.

9.6.5 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 entrepreneur offer bank 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.

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

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.

-9.6.6 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.

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.

9.6.7 20 Question to Ask Yourself Before Considering Entrepreneurship

- Why am I starting a business?
- What problem am I solving?
- Have others attempted to solve this problem before? Did they succeed or fail?

- Do I have a mentor or industry expert that I can call on?
- Who is my ideal customer?
- Who are my competitors?
- What makes my business idea different from other business ideas?
- What are the key features of my product or service?
- Have I done a SWOT analysis?
- What is the size of the market that will buy my product or service?
- What would it take to build a minimum viable product to test the market?
- How much money do I need to get started?
- Will I need to get a loan?
- How soon will my products or services be available?
- When will I break even or make a profit?
- How will those who invest in my idea make a profit?
- How should I set up the legal structure of my business?
- What taxes will I need to pay?
- What kind of insurance will I need?
- 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:

- A mentor is a trusted and experienced person who is willing to coach and guide you.
- A customer is someone who buys goods and/or services.
- A competitor is a person or company that sells products and/or services similar to your products and/or services.
- 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.
- 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.
- A company is said to break even when the profits of the company are equal to the costs.
- The legal structure could be a sole proprietorship, partnership or limited liability partnership.
- There are two types of taxes direct taxes payable by a person or a company, or indirect taxes charged on goods and/or services.
- There are two types of insurance life insurance and general insurance. Life insurance overs human life while general insurance covers assets like animals, goods, cars etc

ANNEXURE - QR Codes

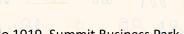
Chapter No.	Unit No.	Topic Name	Page No.	QR code(s)	URL
Chapter - 1 Introduction	UNIT 1.1 About Paints and Coatings Sector in India	1.1.1 Paints and Coatings	4		https://www.p csc.in/2021/09 /09/if-you-are- a-painter-or- aspiring-to-be- we-can-help- you/
Chapter - 1 Introduction	UNIT 1.8 What are Decorative Paints	1.8.1 Decorative Paints	19		https://www.p csc.in/2022/04 /11/basics-of- decorative- painter/
Chapter - 6 Support Sales Function	UNIT 6.2 Presales Responsibilities of a Telecaller	6.2 Pre-sales Responsibilities of a Telecaller	80		https://www.p csc.in/2022/04 /11/basics-of- soft-skills/











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