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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



Transforming the skill landscape



Gem & Jewellery Skill Council of India

Facilitator Guide



Sector
Gems and Jewellery

Sub – Sector
Handmade Gold and Gems-Set Jewellery

Occupation
Polishing and Cleaning

Reference ID: **G&J/Q0701, Version 3.0**
NSQF Level 3

Polisher and Cleaner



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Shri Narendra Modi
Prime Minister of India

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

Acknowledgements

GJSCI would like to thank Vidhya Mazumdar for developing this Facilitator Guide. We would also like to take this opportunity to thank Indian Institute of Gems and Jewellery Jaipur (IIGJJ) for their valuable inputs in the book. We thank H.K Designs India & Fine Jewellery for their feedback and suggestions. We appreciate the endless efforts of our Subject Matter Experts to maintain quality of education and skills. We sincerely thank them for inspiring and facilitating you of Gem & Jewellery sector across India.

Sincerely,



Sanjay Kothari
Chairman, GJSCI

About this Guide

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

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

Symbols Used



Steps



Explain



Tips



Notes



Objectives



Do



Ask



Exercise



Elaborate



Field Visit



Practical



Lab



Demonstrate



Activity



Team Activity



Facilitation Notes



Learning Outcomes



Say



Resources



Summary



Role Play



Example

Table of Contents

S.No	Modules and Units	Page No
1.	Introduction	1
	Unit 1.1 - Icebreaker	3
	Unit 1.2 - Gem and Jewellery Sector in India	5
	Unit 1.3 - Objectives of the Program	7
	Unit 1.4 - Where do Polisher and Cleaner Fall in the Jewellery Making Process	9
	Unit 1.5 - Job Opportunities for a Polisher and Cleaner	11
2.	Polish, Clean and finish the Jewellery (G&J/N0701)	15
	Unit 2.1 - Introduction to Jewellery Making Process	17
	Unit 2.2 - Job Work of a Polisher and Cleaner	19
	Unit 2.3 - Types of Jewellery	24
	Unit 2.4 - Introduction to Diamonds and Gemstones	27
	Unit 2.5 - Types of Settings	30
	Unit 2.6 - Enamelling	32
	Unit 2.7 - Plating	38
	Unit 2.8 - Introduction to Jewellery Polishing	42
	Unit 2.9 - Types of Finish	45
3.	Polish, Clean and finish the Jewellery (G&J/N0701)	49
	Unit 3.1 - Pre-Polishing Process	50
	Unit 3.2 - Cleaning Process	66
	Unit 3.3 - Final Polishing or Buffing	73
	Unit 3.4 - Controlling Gold Loss	79
	Unit 3.5 - Detecting Product Defects	82
	Unit 3.6 - Achieving Quality Standards	84
	Unit 3.7 - Maintaining Quality of Production	86
	Unit 3.8 - Know Your Organization and Its Standards	88
	Unit 3.9 - Work Hazards	90



Table of Contents

S.No	Modules and Units	Page No
4.	Coordinate with Co-workers (G&J/N9912)	93
	Unit 4.1 - Importance of Interaction and Coordination	95
	Unit 4.2 - Interacting with Supervisor	99
	Unit 4.3 - Interacting with Colleagues and Other Departments	102
	Unit 4.4 - Interacting with Outside Parties	105
5.	Maintain Safe Work Environment (G&J/N9914)	107
	Unit 5.1 - Understand Potential Sources of Accidents	109
	Unit 5.2 - Understand Safety Signs and Appropriate Requirements to be Safe	112
	Unit 5.3 - Understand Ergonomics or Bad Posture of Body	115
	Unit 5.4 - Fire Safety Rules	117
	Unit 5.5 - Understand How to Deal with Emergency Situations	120
6.	Maintain IPR and Respect Copyright (G&J/N9910)	125
	Unit 6.1 - Scope of IPR	127
	Unit 6.2 - Types of IPR	129
7.	Annexures	131
	Annexure I: Training Delivery Plan	132
	Annexure II: Assessment Criteria	158

It is recommended that all the trainings include the appropriate Employability Skills Module.

Content for the same is available here:
<https://www.skillindiadigital.gov.in/content/list>





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1. Introduction

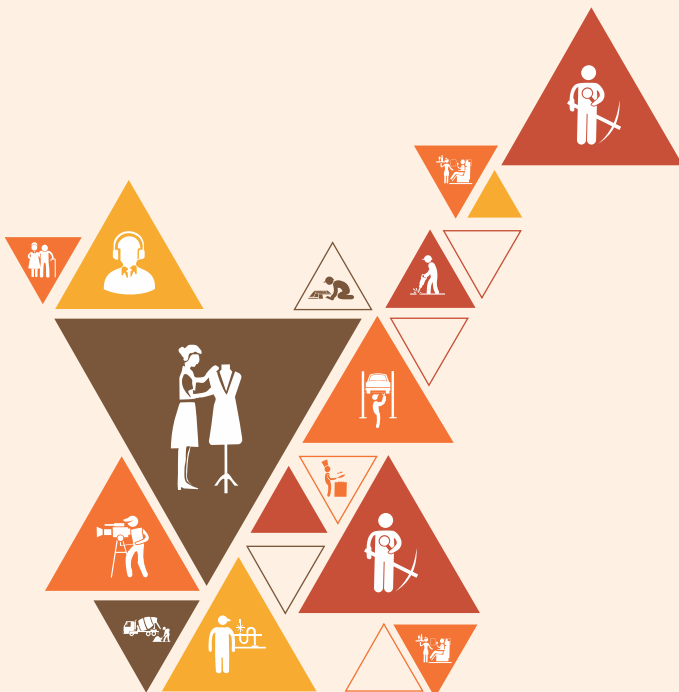
Unit 1.1 – Icebreaker

Unit 1.2 – Gem and Jewellery Sector in India

Unit 1.3 – Objectives of the Program

Unit 1.4 – Where Do Polisher and Cleaner Fall in the Jewellery
Making Process

Unit 1.5 – Job Opportunities for a Polisher and Cleaner



Key Learning Outcomes

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

1. Build rapport with fellow you of the program
2. Identify your roles and responsibilities
3. Get you to interact
4. Get you to think about their job role
5. Explain the significance of the Gem and Jewellery industry to you
6. Induce participation from you in group activities for upcoming modules

UNIT 1.1: Icebreaker

Unit Objectives

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

1. Introduce each other
2. Build rapport with fellow you and the trainer
3. Induce you to take part in group activities
4. Create team building exercises for upcoming modules
5. Understand the you level of knowledge and skill

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens, loose blank paper sheets, permanent marker, safety pins, scissors, 30 blank paper sheets 4 x 2 inches

Do

- Make the you write their first name and initial of their surname on the 4 x 2-inch blank paper sheets and attach it to their clothing with the safety pin.
- Introduce yourself with your name, designation or title, company or organization you represent, experience and qualifications related to the Gem and Jewellery Industry.
- you should individually introduce themselves to the class and trainer by stating their name, designation or title, company or organization they represent, experience, field related qualifications and what do they expect from the training.
- Make teams comprising of 2 you.

Say

- Ask you to mention on a blank sheet of paper, their expectations from the training, current job and where do they see themselves after completion of this training.
- Thank the you for their participation.

Notes for Facilitation

- You could ask the you to speak in the language they are comfortable with.
- Encourage shy you to provide information about themselves by prompting them with questions such as 'what do you enjoy doing the most', 'what is your favourite movie or book' etc.
- You could put a shy student and an extrovert student in 1 team.
- You could ask for a student to act as a translator if you are not well versed with the language of the you for example Tamil, etc.

UNIT 1.2: Gem and Jewellery Sector in India

Unit Objectives

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

1. Familiarize themselves with the Gem and Jewellery industry of India
2. Endorse the huge significance of the Gem and Jewellery industry on India's export market
3. Discuss the market segments for various types of products manufactured by this industry
4. Create awareness of the involvement of this industry in the growth of the India
5. Identify the growth pattern of this industry
6. Discuss about the career growth in this industry

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- Computer or Laptop attached to LCD projector

1.2.1: Significance of Gem and Jewellery Sector in India

Do

- Present the powerpoint presentation on the Gem and Jewellery industry in India.
- Make you underline important points in the student handbook.

Say

- With a market size of almost INR 4,54,100 crore, the sector has a large share of the GDP at ~5.9 %, apart from large-scale employment generation and foreign exchange earnings.
- Based on economic activities from NIC-2008, major sub-sectors of sector are: processing (diamond, and gemstone), manufacturing (cast and diamond set, and handmade and gem set) and retailing.
- Indian markets for diamond processing — Surat, Ahmedabad; for gemstone processing — Bhavnagar and Jaipur; and for handmade gold jewellery — Kolkata, Thrissur and Coimbatore — are among other areas that are known world over for their products.
- More than two – thirds of the sector work force in India is employed in processing and manufacturing areas of the value chain.
- Employment is concentrated in the states of Rajasthan, Gujarat, Maharashtra, West Bengal and the Southern belt of Kerala and Tamil Nadu.
- Currently, there are about 22 G&J SEZ's approved under the SEZ Act, 2005, throughout India, out of which, 5 are operational, 4 have valid-in principle approvals and 12 are at the formal approval stage.
- The above areas will require skilled manpower and in line with current employment areas indicating that these areas will continue to be employment destinations for manpower supply.
- Ask you to work within their team and discuss questions before asking you.

Notes for Facilitation

- Keep notes about the various market segments and market growth in India for discussion within you.
- Employment opportunities in the industry with the job roles available.

Scan the QR Code to watch the related video or click on link



Click Here
Gem & Jewellery industry Orientation

UNIT 1.3: Objectives of the Program

Unit Objectives

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

1. Explain the jewellery manufacturing process to other you or work colleagues
2. Explain the need for polishing and cleaning in the jewellery manufacturing process
3. Apply procedures to enamel a jewellery piece
4. Apply procedures to clean a jewellery piece
5. Apply procedures to polish a jewellery piece
6. Apply procedures to plate a jewellery piece

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens

Say

- Ask you to mention their expectations from this program.
- Ask you to write on the whiteboard, one word of jewellery they can relate to.

Notes for Facilitation

- List the expectations of the you on the whiteboard.
- Give the you a brief overview of what all will be covered in the program.

1.3.1: Need for Polishing and Cleaning

Say



- To understand the design specification.
- To minimize metal damage.
- To make customers feel comfortable when wearing the jewellery piece.
- To make the jewellery product more durable.
- To maximise the duration of the polish applied.
- To enhance the jewellery product.

UNIT 1.4: Where Do Polisher and Cleaner Fall in the Jewellery Making Process

Unit Objectives

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

1. Deliberate about where polishing and cleaning comes in the jewellery casting process
2. Explain the overview of the jewellery manufacturing process to other you or colleagues

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- Computer or laptop attached to LCD projector

Say

- Inform you about the casted and handmade jewellery manufacturing process and where polishing and cleaning falls in the process hierarchy.
- Ask each team to mention one part of the casted and handmade jewellery manufacturing process.
- Discuss about the casted jewellery market compared to handmade jewellery market.

Notes for Facilitation

- List the information received from the you on the whiteboard.
- Give the you a brief overview of the casting jewellery manufacturing process.
- Give the you a brief overview of the handmade jewellery manufacturing process.

1.4.1: Jewellery Making Process

Say



- A gem and jewellery firm has many divisions in it.
- Casted jewellery is one of the main divisions in the firm and has different departments working on different stages of the casted jewellery.
- Handmade jewellery is another division which follows different stages compared to casted jewellery except for the design stage.
- The design can be developed either by using CAD (Computer Aided Design) or by hand.
- In the casting process, once the design is created, a dye is made which is used for producing wax pieces.
- In the handmade process, every element is created from the scratch by hand.
- In both casted and handmade jewellery, polishing and cleaning are required.
- Pre-polishing and cleaning is done on the metal product at various stages.
- After final polish or finish the product is sent for final QC and delivery.

Summary



- List the information received from the you on the whiteboard.
- Give the you a brief overview of the casting jewellery manufacturing process.
- Give the you a brief overview of the handmade jewellery manufacturing process.

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Click Here

Indian Heritage & Crafts in Global Market 1



Click Here

Indian Heritage & Crafts in Global Market 2

UNIT 1.5: Job Opportunities for a Polisher and Cleaner

Unit Objectives

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

1. Discuss about the job scope of a Polisher and Cleaner
2. Refer to the different workplaces a polisher and cleaner can be employed in or can work in
3. Interact with different organizations about the type of workplace

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens

Notes for Facilitation

- List the information received from the you on the whiteboard.
- Give the you a brief overview of the job opportunities for a polisher and cleaner in the industry.

1.5.1: Job Opportunities for a Polisher and Cleaner

Do

- Ask each student to mention what is their idea of the job scope for a polisher and cleaner.
- Discuss about the various or different workplaces where a polisher and cleaner can be employed or

Say

- Polisher and cleaner are also called 'Polishing Goldsmith', 'Artisan' or 'Bench-worker' in the industry.
- Job opportunities for a polisher and cleaner include being a freelancer or having their own business where they take up job work as per the requirements.
- A small-scale firm has less employees and the owner of the firm may also be working with the employees.
- A large-scale firm has more employees working in a designated department for polishing and cleaning.

1.5.2: Personal Qualities Required in a Polisher and Cleaner

Elaborate



Fig 1.5.2.1: Personal Qualities



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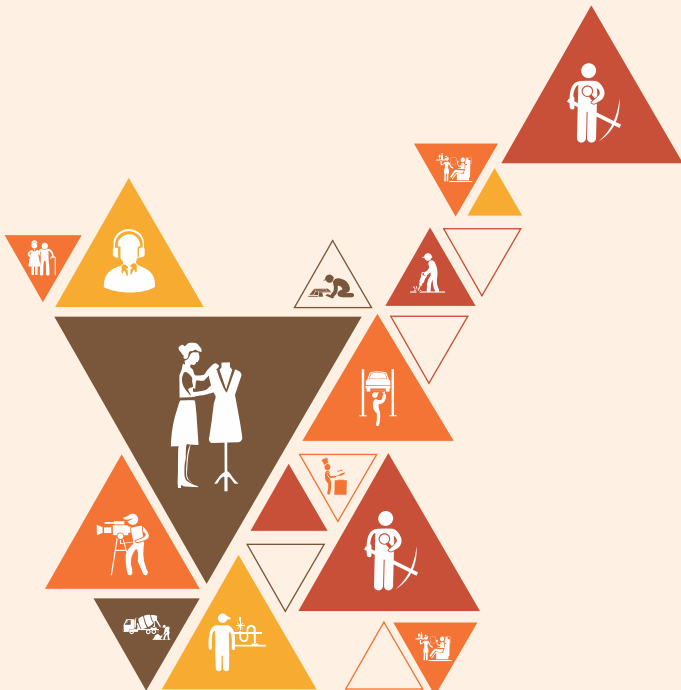
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Gem & Jewellery Skill Council of India

2. Polish, Clean and finish the Jewellery Part - I

- Unit 2.1 – Introduction to Jewellery Making Process
- Unit 2.2 – Job Work of a Polisher and Cleaner
- Unit 2.3 – Types of Jewellery
- Unit 2.4 – Introduction to Diamonds and Gemstones
- Unit 2.5 – Types of Settings
- Unit 2.6 – Enamelling
- Unit 2.7 – Plating
- Unit 2.8 – Introduction to Jewellery Polishing
- Unit 2.9 – Types of Finish



G&J/N0701

Key Learning Outcomes

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

1. Identify their knowledge level and explain the job work involved in polishing and cleaning
2. Explain the jewellery making process
3. Identify the different types of jewellery manufactured in India
4. Know more about diamonds
5. Know more about gemstones
6. Understand basic and advanced setting styles
7. Apply the process of enamelling onto jewellery
8. Understand and apply the plating process onto jewellery
9. Interpret the job sheet for the job work
10. Select the appropriate tools and equipment
11. Identify the various raw materials required for the job work
12. Identify the different types of jewellery finishes
13. Learn the importance of jewellery polishing

UNIT 2.1: Introduction to Jewellery Making Process

Unit Objectives



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

1. Explain the jewellery manufacturing processes to colleagues
2. Explain how metal is melted and processed into metal bars
3. Describe the handmade jewellery manufacturing process
4. Describe the casted jewellery manufacturing process
5. Describe the chain making process
6. Gauge their importance in the jewellery manufacturing process chain

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop

2.1.1: Jewellery Making Process

Explain



- About the overview of the jewellery manufacturing processes.
- The design creation done manually or with the aid of CAD (Computer Aided Design).
- Melting of gold bullion with alloy is done at the high temperature of 1000°C.
- Metal rods or metal bars are made by pouring molten gold, silver, platinum or other metals into casts for bars and rods.
- The metal rods or metal bars are then used for either of the following or for all:
 - Chains
 - Handmade jewellery
 - Casted jewellery
- Handmade jewellery manufacturing process
- Casted jewellery manufacturing process
- Machine made chain manufacturing process

Field Visit



- Show you the different manufacturing areas in a jewellery factory:
 - Chains
 - Handmade jewellery
 - Casted jewellery
- Show you the metal melting process in a factory (metals will be covered later in this module).

Scan the QR Code to open the related document or click on link



Click Here
Introduction to Precious Metal

UNIT 2.2: Job Work of a Polisher and Cleaner

Unit Objectives

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

1. Describe their job work to colleagues
2. Use the appropriate terms as per Indian and International market requirements
3. Identify the tools and equipment used for polishing and cleaning
4. Implement learnings of a well-organized work area in their work place
5. Realize the importance of a well-organized and clean work place

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop

2.2.1: Introduction of Polisher and Cleaner

Say



- A Polisher and Cleaner are also known as “Polishing Goldsmith”, “Artisan” or “Bench Worker”.
- In India, a frame maker or goldsmith is also called as “Karigar”.
- A polisher and cleaner together provide the final finish to a jewellery frame along with its parts and clean it thoroughly to prepare it for gemstone or diamond setting.
- Polishing and Cleaning removes the marks and scratches a jewellery piece got from the previous processes, hence giving the jewellery piece a uniform surface and preparing it for the buffing process.
- It is done with relatively hard faced polishing wheels mounted on polishing motors.
- Polishing follows grinding and buffing.
- Buffing is always followed by polishing.
- In the mechanical buffing of metal, very fine abrasives are used on softer wheels compared to polishing.
- This results in a smooth metal surface ranging from semi-bright to high mirror finish.
- A jewellery piece becomes beautiful and attractive after these two processes as it makes the metal shine.

2.2.2: Know the Machines Used in Polishing and Cleaning Jewellery

Explain

- Importance of knowing the machines used for polishing and cleaning.
- About the different polishing and cleaning machines.
- About the different polishing and cleaning equipment.

Team Activity

- Ask you to identify minimum 2 equipment and machines kept on the trainer's desk.
- Ask you to discuss their answers with trainer and each other as a team activity.

2.2.3: Know the Tools and Consumables

Explain



- Importance of knowing the tools and consumables used for polishing and cleaning.
- About the different polishing and cleaning tools.
- About the different polishing and cleaning consumables.

Team Activity



- Ask you to identify minimum 2 tools and consumables kept on the trainer's desk.
- Ask you to discuss their answers with trainer and each other as a team activity.

2.2.4: Preparing the Workplace

Explain



- Importance of preparing the workplace before starting the job work.
- The workplace should be properly arranged as well as neat and clean.
- All the required tools to be used by frame maker should be available and properly arranged.
- Safety measures like optimizer/ eye goggles, gloves, hair caps, face mask should also be available.
- A dust catching device called the dust collector should be used to collect all the metal dust at the workplace.
- The dust is drawn through a flexible, large diameter hole which is attached to a dust collector or drum.
- This device helps in the process of metal wastage collection, by collecting the dust.
- This dust is then collected, sieved and melted to recover lost metal during the jewellery manufacturing process.

UNIT 2.3: Types of Jewellery

Unit Objectives

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

1. Identify the different types of jewellery
2. Identify the unique type of jewellery manufactured only in India
3. Explain the process of creating the unique type of jewellery manufactured only in India
4. Relate to the local Indian terms used for jewellery manufacturing

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets
- Different types of jewellery samples (as per participant handbook)

2.3.1: Types of Indian Jewellery

Elaborate



- The different types of jewellery and their significance:
- Antique Jewellery
- Bead Jewellery
- Bridal Jewellery
- Custom or Customized Jewellery
- Filigree Jewellery
- Plain Gold Jewellery
- Jadau Jewellery
- Kundan Jewellery
- Lac or Lacquer Jewellery
- Minakari or Meenakari Jewellery
- Dokra or Dhokra Jewellery
- Fusion Jewellery
- Thewa Jewellery
- Navratna Jewellery
- Temple Jewellery
- Bikaneri Jewellery (also called kundan)
- Pachchikam Jewellery
- Silver Iodized Jewellery

Activity



- Ask you to identify and list down the type of jewellery displayed on the trainer's desk.
- Trainer to discuss the answers with entire class.

Scan the QR Code to open the related document or click on link



Click Here
Diversity in Indian Jewellery



Click Here
Categories of Indian Jewellery

2.3.2: Categories of Jewellery

Elaborate



- The different categories of jewellery and their significance:
 - Head Ornaments
 - Neck Ornaments
 - Hand and Arm Ornaments
 - Body Ornaments
 - Leg and Feet Ornaments

Activity



- Ask you to identify and list down the category of jewellery displayed on the trainer's desk.
- Trainer to discuss the answers with entire class.

UNIT 2.4: Introduction to Diamonds and Gemstones

Unit Objectives

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

1. Learn the basics of handling a stone
2. Explain 4Cs of a diamond
3. Gain basic knowledge of gemstone shapes and cuts
4. Identify the risks with diamonds

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- CZ stones, red glass stones, gemstones, 10x loupe or magnifying lens, tweezers, gem cloth, stone measuring gauge, matching tray
- Blank sheets of paper

Scan the QR Code to open the related document or click on link



Click Here
Common features & Diamond

2.4.1: Introduction to Diamonds

Explain



- Meaning of diamond, hardness of diamond and toughness of diamond.
- The 4Cs of diamonds and their significance on the value of a diamond.
- How to handle diamonds and avoid damaging them.
- Parts of a diamond.
- Girdle is the most important part of a diamond and can affect the setting of the diamond.
- About different shapes and cuts available for diamonds with the correct term.
- Use of tweezers to hold diamonds.

Exercise



- Lay out different shapes and cuts of diamonds and ask you to identify them.

Practical



- Give each team a 10x loupe or magnifying lens, tweezers, gem cloth, stone measuring gauge and matching tray.
- Give each team 2 CZ stones.
- Ask them to measure the CZ with a stone gauge, then clean the stone with the gem cloth, pick the stone with the tweezers and view with the loupe or magnifying lens.
- Ask them to identify the different parts of the stone and list down the parts.
- Ask teams to interact with each other and discuss their viewings with trainer.

Tips



- Diamonds can become milky when temperatures of 800°C and more touch them.
- Although diamonds are the hardest material on earth, they are not the toughest and can break or get damaged if not handled carefully.

Skill Practice	Time	Resources
Diamonds	2 hours	CZ stones, 10x loupe or magnifying lens, tweezers, gem cloth, stone measuring gauge, matching tray

2.4.2: Introduction to Gemstones

Explain



- Meaning of a gemstone.
- Difference between precious and semi-precious gemstones.
- About stones which can be used in wax setting and which cannot be used and why.
- How to handle gemstones and avoid damaging them.
- About different shapes and cuts available for gemstones with the correct term.

Exercise



- Lay out different shapes and cuts of gemstones and ask you to identify them.

Practical



- Give each team a 10x loupe or magnifying lens, tweezers, gem cloth, stone measuring gauge and matching tray.
- Give each team 2 red glass stones.
- Ask them to measure the stones with a stone gauge, then clean the stone with the gem cloth, pick the stone with the tweezers and view with the loupe or magnifying lens.
- Give each team 3 stones of each group (which can be set and which cannot be set) after collecting the glass stones back and ask them to repeat the above step.
- Ask teams to interact with each other and discuss their viewings with trainer.

Skill Practice	Time	Resources
Gemstones	2 hours	Red glass stones, gemstones, 10x loupe or magnifying lens, tweezers, gem cloth, stone measuring gauge, matching tray

UNIT 2.5: Types of Settings

Unit Objectives

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

1. Identify the basic and advanced setting techniques for diamonds and gemstones
2. Identify which setting is risky and difficult to work with
3. Identify potential defects that may arise from certain settings
4. Categorize the different terms of settings used in the Indian as well as International market

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Jewellery samples of different setting styles
- Blank sheets of paper

2.5.1: Types of Settings

Team Activity



- Ask teams to list the different setting styles.
- Ask teams to discuss pros and cons of each setting style with each other and trainer.

Learning Outcomes



- Identification of different setting styles and their pros and cons.
- Die struck method is one of the best methods to create sturdy and strong setting heads.
- Casting method is also used for making setting heads, but may not be as durable as die struck manufactured pieces.
- A Frame maker will also have to make Frames such as prong findings, setting heads, links for settings.
- It is important to read the job sheet to know the metal type, karatage and weight of the jewellery before starting to work on setting Frames

Skill Practice	Time	Resources
Identification of basic and advanced setting styles	4 hours	Jewellery samples of different setting styles, Blank sheets of paper

Summary



- you should be able to identify the basic and advanced setting styles.

Scan the QR Code to open the related document or click on link



Click Here
Types of Setting

UNIT 2.6: Enamelling

Unit Objectives

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

1. Implement the enamelling or minakari/ meenakari process in their job work
2. Identify the raw materials for enamelling
3. Identify tools and equipment required for enamelling
4. Identify areas of issues while enamelling
5. Identify types of enamel used in jewellery production
6. Prepare the right type of enamel for further working
7. Create enamelled jewellery pieces

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Different types of enamel powder, enamel glass, enamel lump, mortar and pastel set, hammer, bottled or distilled water, empty containers, sterling silver sheet (thickness of minimum 1.3mm), diluted solution of hot sulphuric acid (1 part of acid to 10 parts of water), glass or ceramic bowl, cleaning brush, engraving tool set, glass cleaning brush, tub of water or running water, burnishing tool set, spatula, flux or borax, absorbent towel, paint brushes (different head sizes starting with 0.000), furnace or electrically heated oven, grades 280-400 grit sandpaper, dry cloth, polishing tools, buffing machines with different buff wheels, work bench, work apron, eye goggles, hand gloves, dust mask
- Blank sheets of paper

2.6.1: Enamelling

Explain



- Enamel means when glass is attached to metal.
- Enamelling is a technique of adding coloured glass to a piece of jewellery.
- Enamel is basically finely grounded glass.
- When these tiny coloured glass particles are heated in a furnace at about in 800°C on a very hot metal, the result is a beautiful coloured glass coating on the metal called as enamel.
- Enamel is very brittle and can be easily damaged with rough treatment.

2.6.2: Types of Enamel

Explain



- There are three types of enamel that is used in jewellery:
 - Opaque
 - Translucent
 - Transparent

Activity



- Trainer to keep different types of enamelled jewellery on trainer desk.
- you to identify each type of enamel used on the jewellery as per categories mentioned during explanation.
- Trainer to discuss answers with entire class.

Skill Practice	Time	Resources
Identification of types of enamel	1 hour	Samples of different types of enamel, Blank sheets of paper

Summary



- you should be able to identify the different types of enamel.

2.6.3: Preparing the Enamel - Steps

Demonstrate

- STEP 1: Prepare the enamel colour from enamel powder or lumps.
 STEP 2: Choose the colour and put it in the mortar, use a pastel for grinding.
 STEP 3: Break the lumps down with a hammer while explaining that mortar and pastel is made of marble.
 STEP 4: Put water in the mortar and start rubbing slowly.
 STEP 5: After some time throw out the water from jar and repeat the process again and again.
 STEP 6: Pour bottled water in it one last time to make it pure.
 STEP 7: Remove all the water to make the powder dry.
 STEP 8: Store the prepared dry powder in separate containers preferably by colours.

Practical

- Ask you to prepare the enamel as per the steps demonstrated in the above session.
- Ask you to prepare 3 colours of enamels.

Skill Practice	Time	Resources
Preparing the enamel	4 hours	Samples of different types of enamel, mortar and pastel per student, enamel lumps, distilled or bottled water, hammer per student, 3 empty containers per student, blank sheets of paper

2.6.4: Enamelling Process on Metal

Demonstrate

- Take a plain sterling silver sheet having a minimum thickness of 1.3mm and soak it in a diluted solution of hot sulphuric acid (1 part of acid to 10 parts of water).
- The metal must be completely free of grease and oxides.
- Engrave out the individual shape to be enamelled from the sheet with the help of engraver.
- Depth of enamel should be approximately 0.3mm.
- Clean the metal and the engraving with a glass brush under running water.
- Make the background more reflective by using a burnishing tool.
- Take a small spatula to place a layer of flux into the etched-out area.
- Gently tap the sides of the piece with the spatula to allow the flux to spread and settle evenly.
- Use the corner of an absorbent towel to remove out excess water.
- Fill the first colour required on the particular part of the product.
- Then apply the second required colour as per sample job sheet description.
- Place the filled jewellery product in an 815oC heated oven or electrical oven.
- Show how after melting, the glass converts in to a layer and covers the area to be filled.
- After completing the heating step, remove the jewellery piece from the oven and put in water so that it may cool down.
- Grades 280-400 of wet and dry sandpaper can be used under running water to give a finer finish.
- Dry the piece and check that the enamel is smooth.
- Any remaining areas can be filled with the required colour and the piece re-heated.
- Polish the metal around an enamelled area with the usual compounds and inform you to be careful to avoid keeping the buff too long at any one spot.
- Explain that the compounds will not damage the glass, but excessive polishing will create an uneven surface as metal is removed.
- Explain an uneven surface can be avoided by lightly polishing the metal hence a light touch with the buff should be enough to bring the metal to a bright shine.

Practical

- Ask you to do the enamelling process as per the steps demonstrated in the above session.

Skill Practice	Time	Resources
Enamelling process	6 hours	Silver sheet of minimum 1.3 mm thickness per student, burnishing tool set, diluted solution of hot sulphuric acid, flux or borax, enamel powder,

		absorbent towel, water, furnace, tweezer, cleaning brush, glass cleaning brush, paint brush all sizes (minimum 0.000 size), grade 280 – 400 grit sandpaper, polishing tools, buff machines with buff wheels, eye goggles, hand gloves, dust mask, work apron, work bench
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UNIT 2.7: Plating

Unit Objectives



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

1. Identify the different types of tools and equipment required for plating
2. Differentiate between the different techniques of plating
3. Explain the different techniques of plating to colleagues
4. Identify specific metal plating technique for gold
5. Identify specific metal plating technique for silver
6. Differentiate silver plating and rhodium plating

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Plating tools and equipment or plating station, jewellery hanging rack for plating or copper wires, plain water, distilled or bottled water, silver chain, copper jewellery, silver jewellery, gold jewellery, hand gloves (surgical), containers for water, soft cloth, chemicals for silver plating, gold plating and rhodium plating
- Blank sheets of paper

2.7.1: Introduction to Plating

Explain

Plating is the technique to apply or coat a thin layer of metal on to another metal surface mainly for the decorative purposes.

2.7.2: Plating Techniques

Explain



- The different plating techniques such as:
 - Electroplating
 - Electroless plating
 - Other plating Techniques such as chemical plating, electrochemical plating, and mechanical plating, spray plating, hot dip plating, pen plating etc.

Demonstrate



- Electroplating, electroless plating using copper jewellery.
- Use of plating chemicals, tools and equipment

Practical



- Ask you to plate 2 copper sheets using the electroplating method.
- Ask you to plate 2 copper sheets using the electroless plating method.

Skill Practice	Time	Resources
Plating techniques	3 hours	4 copper sheets per student, chemicals, tools and equipment for electroplating and electroless plating, water bowls, distilled water or bottled water, soft cloth

2.7.3: Specific Metal Plating

Explain



- Gold plating is a method of depositing a gold layer of .175 microns (approximately 7/1,000,000ths of an inch) with at least 10-karat gold onto the surface of another metal, most often silver or copper, by chemical or electrochemical mode.
- Silver plating is a method of depositing a silver layer on other metal surface mainly for decorative purposes on household and jewellery items.
- Rhodium is a noble metal, from the platinum family, with a whitish grey appearance.
- Rhodium, in raw natural state, comes in liquid state and not in solid state like platinum.
- Rhodium is a very popular plating metal which gives a very smooth, shiny and expensive look, just like platinum, to a metal piece.
- This metal is applied through the electroplating process to base metals like gold, sterling silver or some other metal alloy.
- This rhodium plating gives silver tone finish, which is darker than a silver-plated finish and darkens with time rather than tarnishing like silver plate.
- Plating is done on a base metal and can be done by a machine, plating pen or plating liquid.
- Plating is not permanent, hence, re-plating needs to be done as per the plating metal type.
- A small percent of cyanide is used when preparing the plating material, be careful when using the same

Demonstrate



- Plating of base metal with gold, silver and rhodium using the appropriate plating tools and equipment.

Practical



- Ask you to plate a minimum of 2 jewellery items of silver in gold, silver and rhodium.

Skill Practice	Time	Resources
Specific Metal plating	4 hours	6 silver jewellery pieces per student, plating tools and equipment or plating station, water bowls, distilled or bottled water, cloth

UNIT 2.8: Introduction to Jewellery Polishing

Unit Objectives

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

1. Explain the importance of polishing jewellery to colleagues
2. Differentiate between basic and advanced techniques of polishing
3. Identify the advantages of polishing
4. Identify the disadvantages of polishing
5. Differentiate between lapping/split lapping/rough cut, polishing and buffing

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask
- Blank sheets of paper

2.8.1: Importance of Jewellery Polishing

Explain

- Polishing and cleaning is an operation done by using different types of materials to remove the tool marks, scratches and give the smooth and shining surface to enhance the beauty of the product.
- Advantages:
 - Polishing and buffing are finishing processes for smoothing a product surface.
 - Polishing makes the product brighter and shinier.
 - Brightness and shining quality of the jewellery product is easy to sell.
 - Polishing removes oxidization (tarnish) from metal objects.
 - Polishing also helps to increase the beauty of the product
 - If there are any tool marks and scratches are left on jewellery product its easily removed by polishing.
 - Its gives lustre to the product.
- Disadvantage:
 - Polishing and buffing is only applied on the surface of the jewellery product.
 - Original metal used for making jewellery can't be judged as its hidden by polished surface.
 - The shining and the lustre of the jewellery is done only on outer surface of the product.
 - Therefore, sometimes you can't judge the purity of the metal.
 - Minute and intricate areas of jewellery product can't be polished.

2.8.2: Basic Steps of Jewellery Polishing

Explain



- Lapping/split lapping/rough cut
- Polishing
- Buffing
- There are many different wheels, buffs, compounds, etc.; use what works for you or is recommended by the company.
- If you are doing any finishing around a stone, protect the stone with tape, a finger or something else.
- The abrasive compounds used can affect the shape and shine of the stone.

Demonstrate



- Lapping/ split lapping or rough cut polishing.
- Polishing of jewellery using bobbing or Tripoli products.
- Buffing using different buff wheels on a buffing machine.

Practical



- Ask you to practise all the above 3 methods shown in the demonstration session.

Skill Practice	Time	Resources
Basic jewellery polishing	4 hours	Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask

UNIT 2.9: Types of Finish

Unit Objectives

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

1. Explain the importance of applying metal finish to jewellery pieces
2. Differentiate between various types of metal finish
3. Identify the advantages of each type of metal finish
4. Identify the disadvantages of each type of metal finish
5. Apply the process of creating the different types of metal finish on jewellery pieces

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask, hammer with detachable finish heads, graver tools, muslin cloth, jewellery showcasing the 9 different types of metal finish, jewellery showcasing other types of finish than the 9
- Blank sheets of paper

2.9.1: Introduction to Metal Finish

Explain



- Metal finishes are also known as surface treatment.
- Finishing is applied on the surface of jewellery as required in the design.
- It usually enhances the beauty of the jewellery product but some time it is also used to remove the production scratches which comes at the time of manufacturing.

2.9.2: Types of Metal Finish

Explain



- Types of different metal finish with their advantages and disadvantages:
 - Mirror finish
 - High polish finish
 - Satin finish
 - Brushed finish
 - Hammered finish
 - Florentine finish
 - Sandblasted finish
 - Matte finish
 - Semi-matte finish
- Additional types of finish available

Demonstrate



- Creating the various types of finish on jewellery using the appropriate tools.

Practical



- Ask you to practise the 9 types of finish as shown in the demonstration session.

Skill Practice	Time	Resources
Metal finish	9 hours	Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask, hammer with detachable finish heads, graver tools, muslin cloth, jewellery showcasing the 9 different types of metal finish, jewellery showcasing other types of finish than the 9



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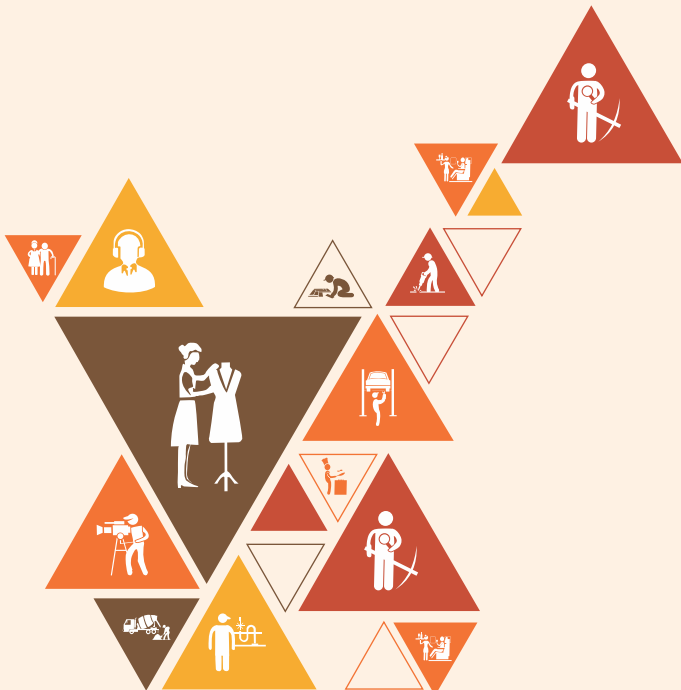
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3. Polish, Clean and finish the Jewellery Part - II

- Unit 3.1 – Pre-Polishing Process
- Unit 3.2 – Cleaning Process
- Unit 3.3 – Final Polishing or Buffing
- Unit 3.4 – Controlling Gold Loss
- Unit 3.5 – Detecting Product Defects
- Unit 3.6 – Achieving Quality Standards
- Unit 3.7 – Maintaining Quality of Production
- Unit 3.8 – Know Your Organization and Its Standards
- Unit 3.9 – Work Hazards



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Key Learning Outcomes

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

1. Differentiation between the pre-polishing, cleaning and final polishing or buffing process.
2. Polish a jewellery piece as per design requirements
3. Clean the jewellery pieces using different techniques
4. Repair defects
5. Control gold loss
6. Understand importance of standard quality of production
7. Implement and maintain standard quality of production required by the company
8. Know more about their organization

UNIT 3.1: Pre-Polishing Process

Unit Objectives

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

1. Classify the pre-polishing stage
2. Classify the final polishing stage
3. Implement the steps of polishing
4. Identify the names of all types of polishing
5. Identify the correct procedure for polishing jewellery
6. Identify the different types of files and their importance
7. Use the appropriate tools and equipment required for the pre-polishing stage

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask, hammer with detachable finish heads, graver tools, muslin cloth, file set, work bench, bench pin, emery paper or sticks or stones, rubber bur attachments, bur attachments, mandrel attachments, pendant motor, thread polisher, magnetic polisher, liquid soap, water bucket, magnetic polisher steel pins, media polisher, different types of media required for polishing, cylindrical rubber bur, round rubber wheel, round bur, round bur small size, plastic round bur, metal bur, round cloth bur, leather bur, hair bur, metal sheet 6x6 inches per student, flex shaft with motor
- Blank sheets of paper

3.1.1: Filing

Explain



- When making jewellery especially when working with wire or other metals, there will be some sharp edges or surfaces.
- Jewellery should not have sharp edges or surfaces touching the skin.
- To make the jewellery smooth and wearable by a customer, one must file the sharp edges or surfaces and make them smooth.
- For the filing purpose, you will be using Files.
- Filing is the first step of the polishing process.
- Files come in all shapes and sizes and have different surfaces required for various finish styles.

3.1.2: Filer

Explain



- There are different names for filers.
- When filing metals, always file in one direction, do not move it back and forth.
- The purpose of filing is to:
 - Remove scratches on the metal surface
 - Shape the metal into different forms with the help of files
 - Remove extra metal and extra solder
- Create different finishes or textures
- Grades of files for coarseness include:
 - Coarse Cut
 - Bastard Cut
 - Second Cut
 - Smooth Cut
 - Dead Smooth
- Different filers are used for different surfaces.
- Pattern files have two different types of cut:
 - Single Cut
 - Double Cut
- Different cuts may be present on the different surfaces of the same file (i.e. a flat file with double cut on both sides, and single cut on both edges).

Demonstrate



- Filing with different grades of files for coarseness
- Filing with different pattern files

Practical



- Ask you to practise filing using the different grade of files for coarseness as shown in the demonstration session.
- Ask you to practise filing using the different pattern files as shown in the demonstration session.
- you must file a minimum of 6 jewellery pieces for each filing technique.

Skill Practice	Time	Resources
Filing	8 hours	Silver jewellery, gold jewellery, file set of different coarseness, pattern file set, work bench, bench pin

3.1.3: Emery Paper, Sticks and Stones

Explain



- In jewellery polishing, emery paper, sticks and stones are also used for removal of marks and scratches.
- Emery sticks which have high quality emery paper bonded around it are ideal for sanding and the preparation of precious metals.
- Emery stones are available in various types of bars and are used by directly rubbing the article to level the surface.
- Emery stones are also used for sharpening the grooves in stone setting.
- The round wheel of emery paper easily polishes the dome surface of jewellery piece as per requirement of a design.
- Emery Paper can also be used with the mandrel to polish the inner surface.
- The sizing of emery wheel depends upon the area required to be polished.
- You may also directly rub the jewellery piece on loose emery paper for required polish.
- The best emery stones are made from best quality silicon carbide which is best for edging or sharpening the product.
- Emery stones are highly durable and long lasting.

Demonstrate



- Polishing with emery paper, sticks and stones on different metals.
- Polishing inner part of a ring with emery paper wrapped around a mandrel.

Practical



- Ask you to practise polishing with emery paper, sticks and stones with the appropriate tools and equipment.
- you must polish a minimum of 6 jewellery pieces with each type of polishing tool.

Skill Practice	Time	Resources
Emery paper, stick and stone polishing	8 hours	Silver jewellery, gold jewellery, emery paper, emery sticks, emery stones, mandrels attached to motor, work bench, bench pin

3.1.4: Rubber Polish

Explain



- The next step of pre-polishing is rubber polishing.
- Different types of burs are used in different types of required surfaces.
- Rubber wheels help to remove almost all the scratches and marks which occur at the time of manufacturing.
- As per the surface requirement choose the correct rubber size.
- Rubber is available in wheel & cylinder shapes in the market.

Demonstrate



- Polishing with rubber burs.

Practical



- Ask you to practise polishing with rubber burs attached to the appropriate tools and equipment.
- you must polish a minimum of 4 jewellery pieces with the rubber bur.

Skill Practice	Time	Resources
Rubber polishing	5 hours	Silver jewellery, gold jewellery, rubber burs attached to motor, work bench, bench pin

3.1.5: Burs

Explain



- Burs can be used with a flexible shaft to remove excess metal or sprees from concave or hollow areas which can't be removed easily with the help of files.
- It is also used for producing texture on metal.
- There are different types of burs found in the market.

Demonstrate



- Removal of excess metal or sprees from concave or hollow areas in jewellery pieces.
- Producing different textures on gold and silver.
- Different types of burs available.

Practical



- Ask you to practise removal of excess metal or sprees from concave or hollow areas in jewellery pieces using appropriate bur attached to flex shaft motor.
- Ask you to produce different textures on a sheet of metal using different burs.

Skill Practice	Time	Resources
Burs	5 hours	Silver jewellery, gold jewellery, bur set, metal sheet 6x6 inches per student, flex shaft with motor, work bench, bench pin

3.1.6: Mandrels

Explain



- A mandrel is a tool component that grips or locks materials to be used on a lathe, or any other part which is to be spun or rotated.
- Big size mandrels are available in various shapes.
- These are conical in shapes.
- Oval, square, triangle, round shapes of wires can be formed with these mandrels.

Demonstrate



- Usage of mandrel to form different shapes of wires.

Practical



- Ask you to practise using the mandrels with a lathe and make different shapes of wires.

Skill Practice	Time	Resources
Mandrels	6 hours	Silver jewellery, gold jewellery, mandrel set, flex shaft with motor, buffing machine, work bench, bench pin

3.1.7: Pendant Motor

Explain



- The pendant motor is the machine on which burs, drills and mandrels are attached.
- This machine basically has a three-part attachment included with it:
 - 1st is the polishing freedom motor which is a high and powerful pendant motor and the speed is variable from 0-16,000 rpm.
 - 2nd is the foot paddle which is used to start and maintain the speed of the motor.
 - 3rd is the hand set and key used to attach different burs, drills, mandrels and other required things to be used in polishing.

Demonstrate



- Usage of pendant motor with various attachments.

Practical



- Ask you to practise using the pendant motor with attachments on minimum 6 pieces of jewellery.

Skill Practice	Time	Resources
Pendant motor	6 hours	Silver jewellery, gold jewellery, pendant motor with attachments, work bench, bench pin

3.1.8: Thread Polish

Explain



- Thread polishing is done by using thread.
- A tight fitted bunch of thread is passed through minute unreachable areas of a jewellery piece to clean these areas where the machines and other polishing tools cannot reach.
- This is a very old technique which is also used in various industries.
- This technique is used for almost all types of jewellery.

Demonstrate



- Usage of thread polishing on intricate jewellery design pieces.

Practical



- Ask you to practise using the thread polish tool on minimum 3 pieces of jewellery.

Skill Practice	Time	Resources
Thread polishing	6 hours	Silver intricate jewellery, gold intricate jewellery, polishing thread, work bench, bench pin

3.1.9: Magnetic Polish

Explain



- Magnet polishing is part of pre-polishing in which a lot of pieces can be polished at the same time in this polishing unit.
- The steps for using the magnetic polisher:
 - Take the plastic jar according to required size and put it on the top of the magnet polisher.
 - Very small stainless steel pins of different sizes (0.5 no., 0.7 no. etc.), controlled by the magnetic rotator, are used to pre-polish the jewellery pieces.
 - Pour these pins in the jar which is placed on top of magnetic polisher.
 - Fill the jar with $\frac{3}{4}$ water.
 - Add 2 tablespoons of liquid soap.
 - Start the machine so that soap and water mix properly after which the machine is ready for polishing.
 - Set timer for the mixture of water and soap according to the capacity of the polishing jar.
 - o For e.g. Polishing 10-12 rings takes 5-8 minutes.
 - During the time of rotation, all pins move around and polish the minute areas of the jewellery piece which is put in the polisher.
 - Check the jewellery pieces which are getting polished.
 - After completion of the rotation, collect all the jewellery products from the liquid.
 - Separate the liquid in the jar, collect pins and jewellery pieces, and drain out the remaining liquid.
- Dry the pins and reuse.

Demonstrate



- Usage of magnetic polisher using the above-mentioned steps.

Team Activity



- Make teams of 3.
- Ask teams to clean minimum 20 pieces of jewellery using the steps mentioned during the explanation session.

Skill Practice	Time	Resources
Magnetic polishing	6 hours	Silver jewellery, gold jewellery, magnetic polishers

3.1.10: Media Polisher

Explain



- Media polishers are used for pre-polishing objects in large quantities by different ceramic mediums like grains, balls or pellets.
- Ceramic media is made up of calcium sulphates and silicates which clean the jewellery pieces by rubbing.
- The media polisher can be used in dry and wet modes, according to the nature of the metal and finishing required in polishing.
- Different types of abrasives required for grinding and polishing called “media”.
- Media comes in different shapes, colour and sizes and every media has different composition.
- Abrasive ceramic or plastic chips called ceramic media are available in various shapes such as elongated oval, cones, pyramids, cylinders and special geometric shapes.
- The grinding intensity of the media ranges from weak, medium and highly abrasive.
- Various chemicals and abrasive powders mixed with water are also added to the load in the barrel.
- These materials are generally referred to as compounds.
- Due to the hardness of the basic material, ceramic media is used for grinding ferrous metal i.e. strong jewellery products.
- Other Ceramic media includes synthetic resin bound minerals (polyester pigments pastes, made by mixing activator and catalyst), or plastic media categorized by a high rate of material removal and more finely polished surface that results from this.
- Plastic media are mainly used for the grinding and fine grinding of non-ferrous metals, because they have soft material connection, which prevents the surface from getting very scratched or damaged.

Demonstrate



- Usage of media polisher using different medias.

Team Activity



- Make teams of 3.
- Ask teams to clean minimum 20 pieces of jewellery using the media polisher and different types of media.

Skill Practice	Time	Resources
Media polishing	6 hours	Silver jewellery, gold jewellery, media polishers, different types of media

3.1.11: Burs and Their Uses

Explain



- Different types of burs and their uses in jewellery polishing:
 - Cylindrical rubber
 - Round rubber wheel
 - Round bur
 - Round bur small size
 - Plastic round bur
 - Metal bur
 - Round cloth bur
 - Leather bur
 - Hair bur

Demonstrate



- Usage of different types of burs using the appropriate motor attachment.

Practical



- Ask you to polish jewellery pieces using each of the above-mentioned burs.

Skill Practice	Time	Resources
Burs and its uses	6 hours	Silver jewellery, gold jewellery, bur set, flex shaft or pendant motor, bench pin, dust mask, gloves, work bench

UNIT 3.2: Cleaning Process

Unit Objectives

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

1. Identify the different types of cleaners
2. Identify the different types of cleaning machines
3. Implement the knowledge acquired to operate cleaning machines
4. Identify areas of work process where cleaning of metal is required
5. Identify pros and cons of cleaning machines

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank job sheets
- Casted metal with investment on it, pickling solution, tumbling machine, bombing and stripping machine, ultrasonic cleaning machine, steam cleaner, boiling water, metal bowl, soft cloth, soft toothbrush, jewellery cleaning solutions, liquid soap, tweezers, water resistant gloves, heat resistant gloves, work apron, table

3.2.1: Introduction to Cleaning

Explain



- Cleaning of metal casting refers to all operations and activities that are done to remove sand, scale and / or excess metal from the casting.
- In jewellery making, cleaning is a continuous process used at various stages.
- Casting comes for cleaning either directly from separated mould or after repair work by welding, soldering or other procedures.
- Burned-on sand and scale are removed to improve the surface appearance of the casting whereas excess metal, in the form of fins, wires, parting line fins and gates, is also removed.
- Cleaning of metal casting can be done by many ways.

3.2.2: Cleaning of Metal

Explain



- Cleaning of metal is done through the methods:
 - Pickling
 - Tumbling
 - Bombing or stripping
 - Boiling

Demonstrate



- Cleaning of metal using all the above-mentioned methods.

Team Activity



- Make teams of 2.
- Ask each team to clean a minimum of 3 jewellery pieces using each of the above-mentioned methods.
- Ask you to list areas of concerns while using these methods.
- Discuss the concerns with appropriate response with the entire class.

Skill Practice	Time	Resources
Cleaning of metal	6 hours	Blank job sheets, silver jewellery, gold jewellery, pickling kit, tumbling machine with tools, bombing or stripping machine with tools, boiling water, metal bowl, soft cloth, soft toothbrush, liquid soap, soft cloth, gloves, tweezers

3.2.3: Cleaning by Boiling – Steps

Demonstrate



- STEP 1: Bring water to a boil; set the gold jewellery in a sturdy bowl or another vessel that won't be damaged by boiling water; arrange jewellery in the dish or bowl so that no piece of jewellery is covering another piece; water should be able to reach every piece of jewellery.
- STEP 2: Carefully pour the water over the jewellery; make sure all the jewellery is immersed; wait for the water to cool; remove the jewellery; scrub each piece of jewellery with a soft brush, then pat it dry with a soft towel; allow it to dry completely.

3.2.4: Ultrasonic Cleaning Machine

Explain



- Ultrasonic cleaner is a machine which uses a fluid that vibrates at 20,000 cycles per second.
- When the vibration speed rises above the ultrasonic frequency level, bubbles burst and create strong power, cleaning the surfaces and cavities of hard-to-clean jewellery pieces.
- This cleaning does not scratch the surface, or harm jewellery pieces.
- Caution should be taken to ensure that the jewellery being cleaned will not be harmed by the extreme vibrations produced by the ultrasonic action.
- Hard stones such as diamonds, sapphires and rubies are safe to clean in it unless there are cracks or inclusions.
- Soft stones such as emeralds, pearls, coral etc. should never be cleaned in an ultrasonic cleaner.
- Ultrasonic jewellery cleaners come in sizes from small for just a few items to very large with trays and inserts for hanging smaller jewellery pieces.
- The bowl of the cleaner holds a cleaning solution; homemade, or commercial grade cleaners can be used.
- Add the items which is to be cleaned and start the machine.
- The ultrasonic cleaner will make noise for a few minutes.

3.2.5: Cleaning by Ultrasonic – Steps

Demonstrate



- Operation of ultrasonic cleaning machine with the following steps.
 - STEP 1: Pour water in the cleaner according to capacity of the ultrasonic and place into the ultrasonic cleaner.
 - STEP 2: Add required quantity of ammonia as per requirement i.e. 1 teaspoon of ammonia in 2 cups of water.
 - STEP 3: Pour 2 tablespoons of dish washing detergent into the mixture.
 - STEP 4: Turn the machine on and let it run for 10 minutes to mix the added solution and allow the ammonia smell to disappear.
 - STEP 5: Remove and hang the cleaned jewellery with the help of a wire.
 - STEP 6: Remove the jewellery, and dry with a soft cloth.

Team Activity



- Make teams of 2.
- Ask each team to clean a minimum of 3 jewellery pieces in the ultrasonic cleaning machine.

Skill Practice	Time	Resources
Ultrasonic cleaning machine	1 hour	Blank job sheets, ultrasonic cleaning machines, water, liquid soap, soft cloth, silver and gold jewellery pieces, tweezers or bent wire, steam cleaner, jewellery cleaning solutions

Tips



- Do not use ultrasonic process for jewellery that needs repair; soft, treated, or damaged gems and stones; sterling silver, or any item that might become damaged by the intense shaking during the cleaning process.
- Since having it repaired would be quite expensive, it would be wise to keep it turned off or unplugged when not in use.
- Tarnish can be removed with a jewellery cleaner, or by using soap and water mixed with a few drops of ammonia and carefully put the jewellery in the solution.

3.2.6: Steam Cleaner

Explain



- These machines usually have a copper, nickel, or stainless steel boiler that heats water and pressurizes steam.
- The jewellery is held under a small nozzle and it discharges steam over the jewellery until it is clean.
- A small amount of tap or boiled water is all that is needed to operate a steam cleaner.
- It's important to place enough water in these machines so that enough steam will come out of the nozzle.
- Usually, there is a certain measurement of water specified by the manufacturer of the machine that will need to be maintained to operate properly.
- One must take the same care of stones with steam cleaning as done with ultrasonic cleaning.

Demonstrate



- Operation of steam cleaning machine.

Team Activity



- Make teams of 2.
- Ask each team to clean a minimum of 3 jewellery pieces in the steam cleaning machine.

Skill Practice	Time	Resources
Steam cleaning machine	1 hour	Blank job sheets, ultrasonic cleaning machines, water, liquid soap, soft cloth, silver and gold jewellery pieces, tweezers or bent wire, steam cleaner, jewellery cleaning solutions

Tips



- Never operate a jewellery steam cleaner without using enough water, or to leave it on when not in use as this could crack the boiler, and the machine would break down.
- Since having it repaired would be quite expensive, it would be wise to keep it turned off or unplugged when not in use.

UNIT 3.3: Final Polishing or Buffing

Unit Objectives

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

1. Do the final polishing or buffing on the jewellery pieces
2. Identify the important aspects of final polishing or buffing
3. Identify the tools and equipment for final polishing or buffing
4. Understand and implement the speed requirements for the final polish on a machine
5. Identify the different types of buff and polish wheels
6. Use the right buff and polish wheel as per design requirements

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank job sheets
- Gold jewellery, silver jewellery, platinum jewellery, copper jewellery, jewellers rouge or rouge polishing compound, polishing motor, buffing motor, buffing wheel set, black emery polishing compound, brown tripoli buffing compound, white rouge polishing compound, gloves, dust mask, eye goggles, work apron, table for keeping motor

3.3.1: Introduction to Final Polishing or Buffing

Explain



- Buffing is the final step of polishing which is done by the help of a buff machine by applying lustre and rouge components on a jewellery piece step by step.
- After creating the manual master, polishing is compulsory before casting the same product in a large quantity.
- The Lustre component removes the tool marks and other scratches which come at the time of production.
- The Rouge component makes it shining and enhances the beauty of the jewellery product.
- Buffing is achieved by using fine, unstitched polishing buffs with rouge.
- The type of rouge depends on the alloy being buffed.

Demonstrate



- Like polishing, hold the item being buffed at the lower portion of the wheel.

3.3.2: Buffing Machines and Tools - Steps

Explain



- Buffing can be divided into two steps:
 - Cut buffing
 - Colour buffing
- Buffing or polishing motors can be used with a variety of different wheel types and compounds.
- Some polishing or buffing motors come with their own filtration systems.
- They are used for normal polishing and buffing operations in jewellery.
- Polishing motors generally have two hardened steel straight or tapered shafts one at the either end, so that two different operations can take place.
- If a motor has only one speed, by choosing the correct wheel diameter, intermediate sfpm (surface feet per minute) rates can be achieved.
- At any single shaft speed a smaller diameter wheel has a slower and a larger diameter wheel a greater sfpm (surface feet per minute) rate.

Demonstrate



- Cut and colour buffing.

3.3.3: Buffing Machines and Tools

Explain



- Lustre and Rouge:
 - These compounds or elements are added to buffs, wheels and other devices to either cut, smooth or polish the metal.
 - Some are very abrasive and leave a matt finish while others, remove very little metal and create a high shine.
 - The heat and friction of the spinning buffing wheel will be enough to transfer the compound to the buff.
- Polishing and buffing wheels:
 - The main function of the polishing or buffing wheels is to carry out abrasive work to achieve metal removal (cutting), and to generate enough heat to cause polishing of the metal surface.
 - The desired result is achieved with the proper wheel type on which the properly selected abrasive compound is applied and contact of it with the metal is made for a long enough time.
 - This is called “Dwell Time”.
 - Polishing and buffing wheels can be made from a variety of materials including cotton, sisal, canvas, chamois, and more.
 - Most wheels and buffs are made with one of three traditional centre's that make them ideal for working with different types of machines or better for being used for different purposes.
- Types of buffing wheels:
 - Spiral
 - Concentric
 - Radial
 - Leather

Demonstrate



- Usage of buffing motor with different wheel types.
- Usage of lustre and rouge with buffing machine.

Practical

- Ask you to practice buffing using buffing wheels.
- Ask you to practice buffing using buffing compounds.

Skill Practice	Time	Resources
Buffing with buffing wheels	8 hours	Silver jewellery, copper jewellery, polishing motor, buffing motor, buffing wheel set, gloves, dust mask, eye goggles, work apron, table for keeping motor
Buffing with compounds	8 hours	Silver jewellery, copper jewellery, jewellers rouge or rouge polishing compound, polishing motor, buffing motor, buffing wheel set, black emery polishing compound, brown tripoli buffing compound, white rouge polishing compound, gloves, dust mask, eye goggles, work apron, table for keeping motor

3.3.4: Buffing Process

Demonstrate



- Right method of holding the jewellery piece while buffing.
- Steps for buffing:
 - Apply lustre on hair buff.
 - Buff jewellery product from all sides.
 - Change the hair buff which has lustre and place a new buff with rouge applied on it.
 - Take the jewellery product and do the same buffing process.
 - Apply the above 2 techniques with cloth buff i.e. first jewellery product is buffed with cloth buff which has lustre and second time product is buffed with cloth buff which has rouge on it.
 - Final polishing using leather buff.
 - Follow the same steps as above; first jewellery product is buffed with leather buff which has lustre and second time product is buffed with leather buff which has rouge on it.

Practical



- Ask you to buff minimum 2 gold products, 2 silver products, 2 platinum products and 2 copper products.

Skill Practice	Time	Resources
Buffing	8 hours	Gold jewellery, silver jewellery, platinum jewellery, copper jewellery, jewellers rouge or rouge polishing compound, polishing motor, buffing motor, buffing wheel set, black emery polishing compound, brown tripoli buffing compound, white rouge polishing compound, gloves, dust mask, eye goggles, work apron, table for keeping motor

UNIT 3.4: Controlling Gold Loss

Unit Objectives

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

1. Control metal loss
2. Identify the areas where metal loss can take place
3. Use the appropriate tools and machines to recover metal loss

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank job sheets
- Work bench, dust collector, bench brush, water bucket, fine size sieve

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3.4.1: Preventing Metal Loss

Explain

- Points to prevent metal loss during the Frame making processes are as follows:
 - Don't do extra filing
 - Don't use extra force during the time of filing or pre-polishing
 - Precious metal should match the allowed metal loss standards as per design requirement
 - Tally accounts to check for metal weight matching before and after frame making
 - Conduct regular and controlled environment cleaning for collection of metal dust
 - Minimise metal loss below the prescribed limits of the company
 - Report any incidents of high precious metal loss to the supervisor
 - Suggest improvements to reduce precious metal loss
 - Wash hands at the specified wash basin as per the company's policy
 - Collect metal scattered during the day (dust and fragments)

3.4.2: Methods to Recover Metal Loss

Explain



- Jeweller's as well as workers are required to clean their hands of gold dust even when leaving their workplace for a break.
- Although employees brush gold dust off their hands, it still remains in their nails and hair.
- After all the work is done, wash your hands with detergent in hand-washing buckets, even when you take a break.
- Collect gold dust from this water once a week.
- Have a gold dust collector under the wash basin to collect gold dust when washing hands if working in a factory.
- Collect and process this gold dust once a week.
- Weigh the gold dust before processing.

UNIT 3.5: Detecting Product Defects

Unit Objectives



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

1. Identify defects in jewellery pieces that have come for polishing
2. Identify defects made during the pre-polishing stage
3. Identify defects made during the cleaning stage
4. Identify defects made during the final polishing or buffing stage
5. Identify the reasons for defect
6. Repair defects
7. Report defects that are not repairable to supervisor

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Jewellery pieces, all cleaning machines, all tools and equipment for cleaning, buffing motor, buff wheel set, buff compounds, gloves, cleaning solutions, all pre-polishing machines, all pre-polishing tools and equipment, eye goggles, dust mask, work apron, table for placing machines
- Blank sheets of paper

3.5.1: Product Defects

Explain



- Products defects include:
 - Prong lifting and snagging
 - Ring shank worn thin
 - Bent prongs
 - Loose stones
 - Cracked prongs
- Excessive polishing or buffing can remove excess metal which cannot be replaced.
- The jewellery piece if damaged then inform your supervisor.

Practical



- Ask you to check the defects in the products they have made from beginning of program and to repair the defect.

Skill Practice	Time	Resources
Defect repairing	6 hours	Jewellery pieces, all cleaning machines, all tools and equipment for cleaning, buffing motor, buff wheel set, buff compounds, gloves, cleaning solutions, all pre-polishing machines, all pre-polishing tools and equipment, eye goggles, dust mask, work apron, table for placing machines

UNIT 3.6: Achieving Quality Standards

Unit Objectives

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

1. Differentiate between Quality Control, Quality Assurance and Quality Standards
2. Achieve the quality standards of their organization and aim higher

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

3.6.1: Achieving Quality Standards as Per Company

Ask



- you what is their understanding of quality.
- you to list down their thoughts on quality and how to improve it.

Elaborate



- The following quality control points to maintain the quality standard of the company the you represent:
 - o Symmetry of design
 - o Design / Engraving or carving
 - o Setting / prongs
 - o Checking for defects such as porosity in casted metal, extra metal, missing prongs, missing stones, finish
 - o Check weight of individual jewellery frames before handling over to next department

Quality Control

Achieving a minimum standard for a product, service or production process which meets customer needs

Quality Assurance

Ensuring quality is delivered & maintained at each stage of the production process. This creates a '*culture of quality*'.

Quality Standards

Most products will have to meet strict standards laid down by independent organisations.

To understand the nature of quality control & quality assurance

Fig 3.6.1.1: Achieve and Maintain Quality Standards as Per the Company

UNIT 3.7: Maintaining Quality of Production

Unit Objectives



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

1. Know their organization's policy on quality of production
2. Maintain quality of production by detecting defects at an early stage

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

3.7.1: Maintaining Quality of Production

Ask

- you to list down areas in their work where they need to maintain quality of production.

Accuracy in Work

Minimum

Better Productivity

Less Wastage

Maintain Quality Standard

Fig 3.7.1.1: Maintaining Quality of Production

Team Activity

- Make teams of 4.
- Ask each team to give a minimum of 2 points on how to maintain quality of production.
- Discuss the points with the entire class.

UNIT 3.8: Know Your Organization and Its Standards

Unit Objectives

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

1. Understand their organizations goals and mission
2. Know their skills, company products and company quality standards

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

3.8.1: Know Your Organization and Its Standards

Ask

- you to list the main quality standards of their organization.
- you to list their main work skills and how can they use their skills to improve the quality standards of their organization.
- you to list the type of products their organization manufactures.



Fig 3.8.1.1: Know Your Organization

Team Activity

- Make teams of 4.
- Ask each team to give a minimum of 2 points on their organization, skills and products.
- Discuss the points with the entire class.

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UNIT 3.9: Work Hazards

Unit Objectives



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

1. Identify the hazards in their work area
2. Provide potential solutions to the hazard

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

3.9.1: Work Hazards

Ask

- you to list the different types of hazards they notice in their work area.

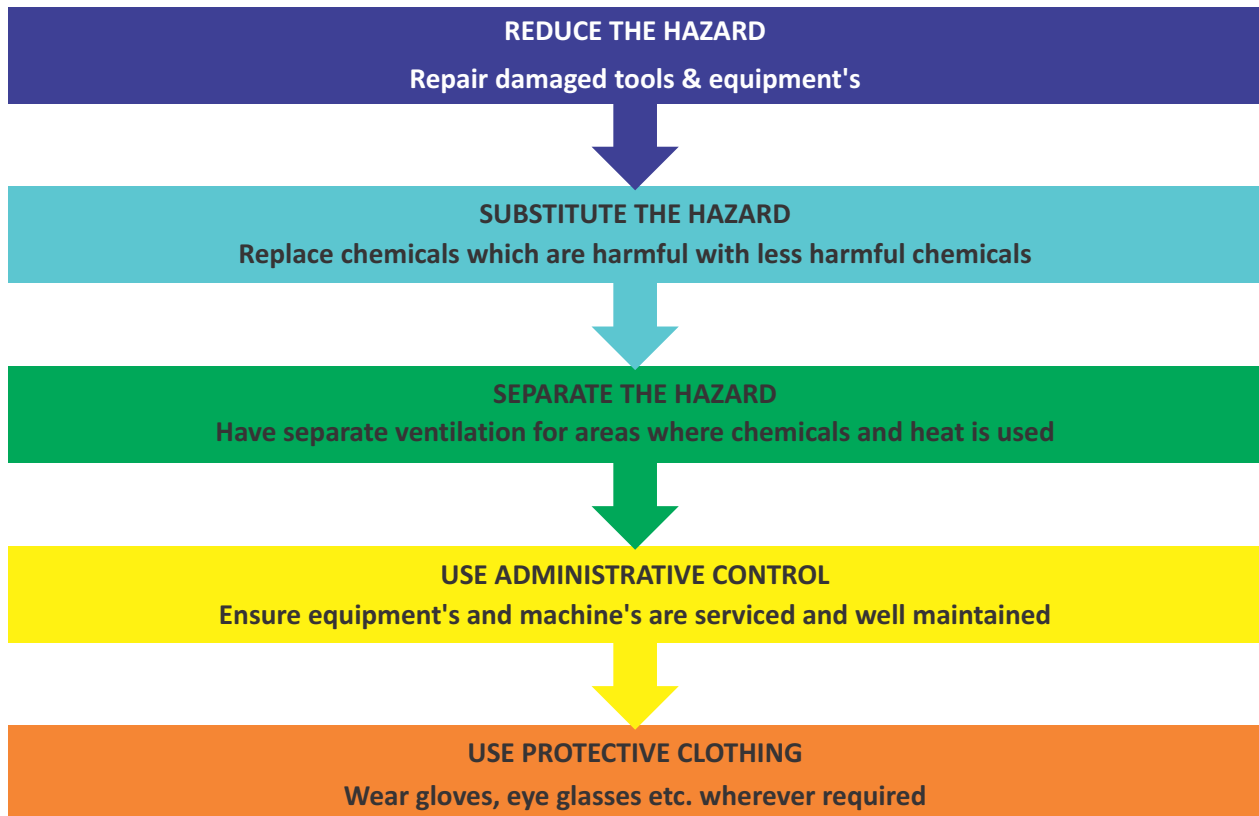


Fig 3.9.1.1: Work Hazards

Team Activity

- Make teams of 4.
- Ask each team to give a minimum of 2 areas of work hazard.
- Discuss the points with the entire class



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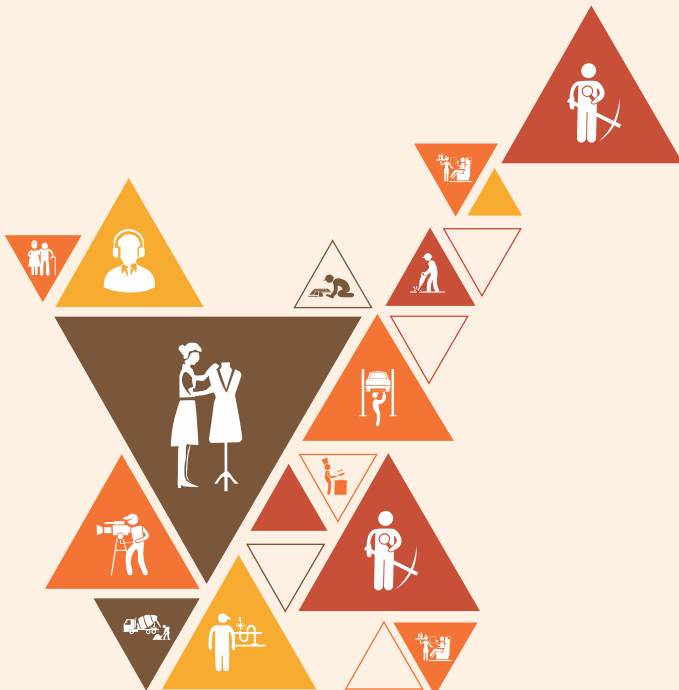
4. Co-ordinate with Co-workers

Unit 4.1 – Importance of Interaction and Coordination

Unit 4.2 – Interacting with Supervisor

Unit 4.3 – Interacting with Colleagues and Other Departments

Unit 4.4 – Interacting with Outside Parties



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Key Learning Outcomes

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

1. Identify the importance of co-ordination with others
2. Understand that co-ordination is an essential part of their job
3. Identify the key requirements for co-ordination amongst co-workers
4. Identify the key requirements for co-ordination between them and their supervisor

UNIT 4.1: Importance of Interaction and Coordination

Unit Objectives



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

1. Know the importance of interaction and coordination
2. Identify gap areas in their interaction and coordination with co-workers, supervisor and others
3. Identify key elements required for coordination and interaction
4. Implement the learnings in their job role

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

4.1.1: Answer These Questions (Exercise)

Exercise

- Ask you to fill in the questionnaire given in their participant handbook
- Elaborate on the opinions mentioned and the highlighted words

Sr. No	Question	Tick the Answer as per your Opinion
1	How Often do people in your team or department speak with you about the job work or process?	<input type="radio"/> Never <input type="radio"/> Sometimes <input type="radio"/> Always
2	How Much Time do people in your team or department take to solve an issue or get new information to you about the job work or process?	<input type="radio"/> Never on time <input type="radio"/> Sometimes on time <input type="radio"/> Always on time
3	How Precise is their communication with you about the issue or the new information given to you?	<input type="radio"/> Never Precise <input type="radio"/> Sometimes Precise <input type="radio"/> Always Precise
4	When there is a Problem do people in your department or team blame each other or do they try and solve the problem/ issue together?	<input type="radio"/> Never <input type="radio"/> Sometimes <input type="radio"/> Always
5	How many of the people in your team or department Share the Same Goals as you regarding the progress of the company?	<input type="radio"/> None <input type="radio"/> Some <input type="radio"/> All
6	How many of the people in your team or department know what your Job Work Actually is?	<input type="radio"/> None <input type="radio"/> Some <input type="radio"/> All
7	How much do these people Respect you for the work you are doing?	<input type="radio"/> Never <input type="radio"/> Sometimes <input type="radio"/> Always

4.1.2: Solving the Gap Areas

Explain



- you who have ticked “Never”, “None”, “Sometimes” or “Some” in most of the questions previous exercise need to solve the gap areas.
- Elaborate on the following gap areas:
 - Provide honest opinions
 - Report problems early
 - Focus on defect prevention than detection
 - Give appropriate feedback
 - Respect for ourselves, others and their time
 - Be friendly and a team player
 - Be problem solving
 - Have determination
 - Have willingness to learn and volunteer
 - Be accountable and take responsibility for our mistakes
 - Deliver work on time
 - Work well under pressure
 - Meet deadlines
 - Be open to ideas and suggestions
 - Keep personal information personal
 - Restrict ourselves from giving out company information to others
 - Focus on quality and quantity of work
 - Create a clear-cut division between personal and work life, no involving the two
 - Communicate differences respectfully and in an appropriate manner

4.1.3: Importance of Interaction and Coordination

Elaborate



- Interaction and coordination establishes effective leadership thus giving the worker an opportunity to move up in his/ her career.
- They both help in motivation and morale development which is essential for the growth of a person in their career.
- Helps in smooth working of the organization.
- Interaction and coordination help in promoting cooperation and peace in the organization.
- It acts as a basis for coordination and cooperation which aids in resolving team issues.
- It acts as a basis for making decisions based on the feedback and interaction with the employee.
- Increases managerial competence by creating a healthy work environment.

Tips



- It's always important that one should be honest about their thoughts, suggestions, opinions when it is concerning the company.
- Advise not to involve personal opinions with professional opinions.
- Advise not to involve personal life with professional life.

UNIT 4.2: Interacting with Supervisor

Unit Objectives

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

1. Know the importance of interaction with their supervisor
2. Identify gap areas in their interaction and coordination with their supervisor
3. Identify key elements required for coordination and interaction
4. Implement the learnings in their job role

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

4.2.1: Interaction with Supervisor

Elaborate



- Interaction with supervisor is about communicating with supervisor to achieve a smooth and hazard – free work flow.
- Interaction with supervisor includes but is not limited to:
 - Raw material and work instruction by report supervisor
 - Communication regarding improvements required in working process or defects received from previous process
 - Communication with supervisor on maintenance of tools and machinery if required
 - To resolve conflicts
 - Informing about potential hazards in work place
 - Reporting about operation details
 - To know company's policies on language of communication, reporting and escalation policies, quality delivery standards and personnel management
- Facial expressions and body language add non-verbal indicates if information received by worker is understood or not.
- If you do not understand a part of the work instruction, always ask your supervisor for more information.

4.2.2: Try the PDCA Method with your Supervisor's Help

Elaborate



- On how the PDCA method can help with improvements in the process flow, reporting product defects, informing about repairs and maintenance of equipment and tools.

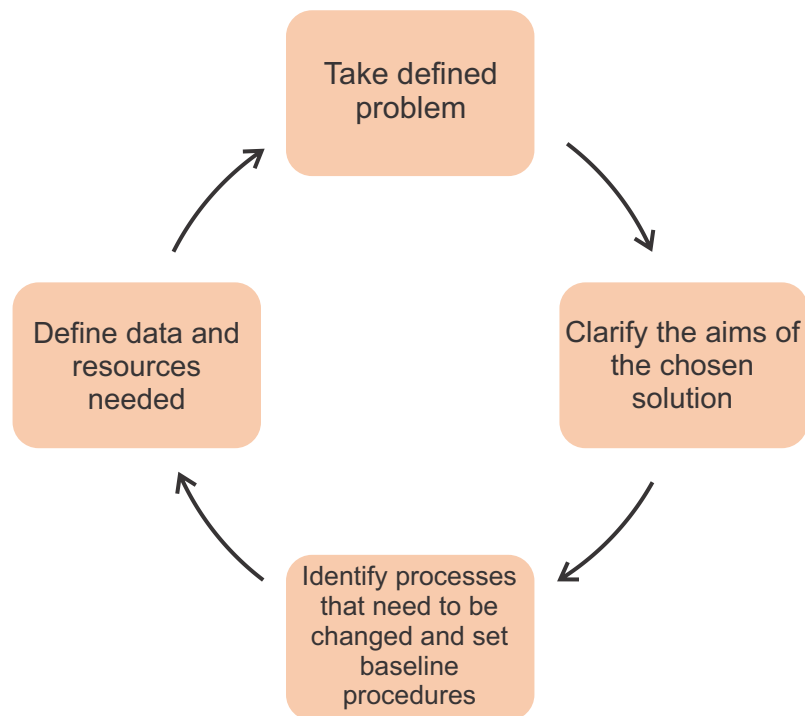


Fig 4.2.2.1: PDCA Method of Interaction

Tips



- Tell you to respect their supervisor and learn to trust him/ her.
- If there is any conflict of thoughts, discuss the same with the supervisor in a humble manner and do not spread bad rumours about your supervisor because of this conflict.

UNIT 4.3: Interacting with Colleagues and Other Departments

Unit Objectives

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

1. Know the importance of interaction with colleagues and other departments
2. Identify gap areas in their interaction and coordination with colleagues and other departments
3. Identify key elements required for coordination and interaction
4. Implement the learnings in their job role

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

4.3.1: Interact with Colleagues Within and Outside the Department

Elaborate



- Interaction with colleagues and other departments is about working as a team with colleagues and sharing work and work load.
- It also means:
 - Sharing team and individual goals
 - Sharing proper communication regarding work flow and finding out solutions for problems occurring in working together
 - Communication with each other, receiving feedback from Quality checker to achieve best work in time
 - Team coordination
 - Proper work process by interacting with others and adopting best practices

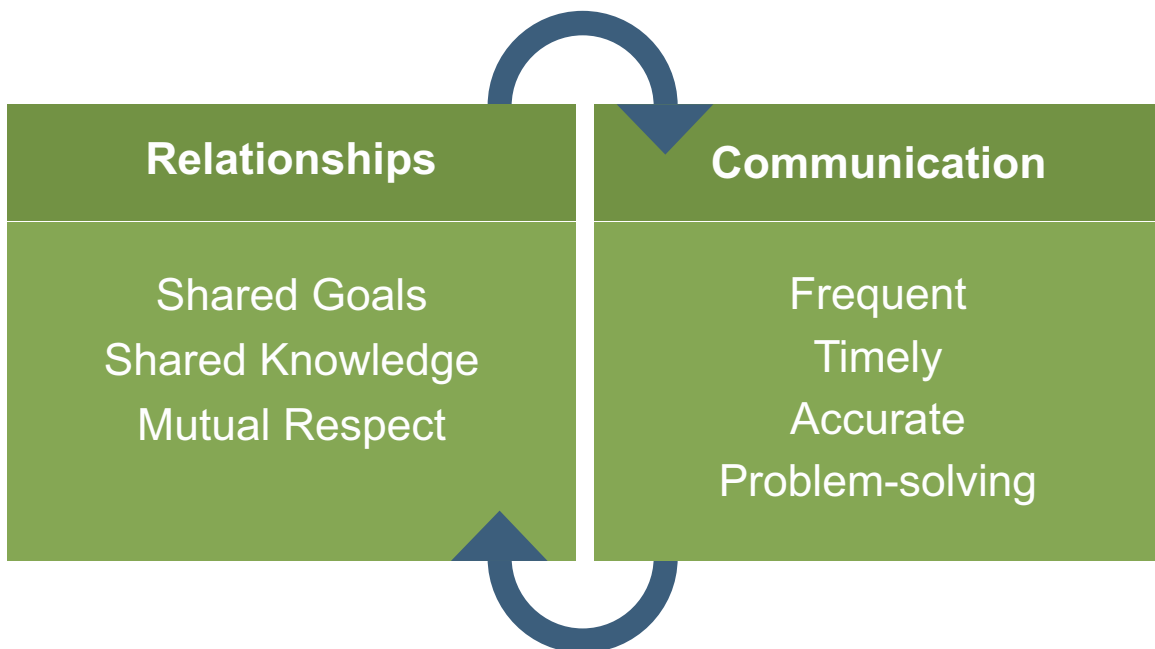


Fig 4.3.1.1: Interaction with Colleagues and Other Departments

4.3.2: Non-Verbal Communication

Elaborate

- When interacting with colleagues and other department personnel's, one should also remember the non-verbal communication or body language they are portraying to others.
- Sometimes, a wrong body language sign might create conflicts or create opinions about you and others.
- Tell you to always remember, what they do not speak may show in their actions, so be careful about what body language sign they are communicating to others.

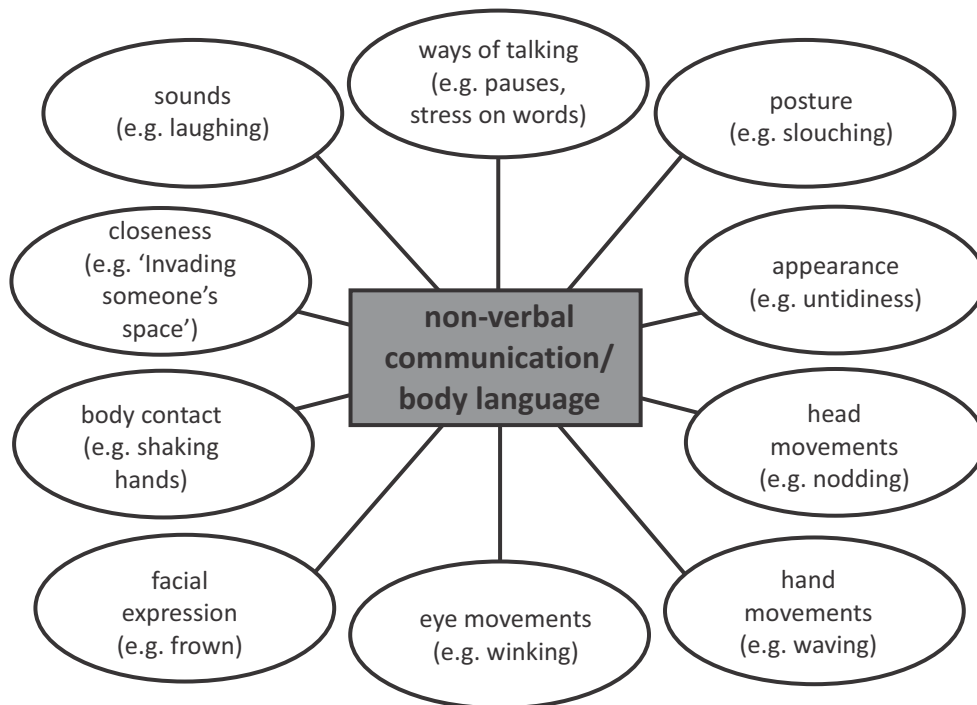


Fig 4.3.2.1: Non-Verbal Communication or Body Language

Tips

- The wrong body language can create a different impression on one's colleagues and other departments.
- If there is something that one would like to share with their colleagues or other departments but cannot due to certain reasons, they should inform their supervisor to communicate the same.

UNIT 4.4: Interacting with Outside Parties

Unit Objectives

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

1. Protect the company's IPR.
2. Explain the importance of IPR to colleagues.
3. Discuss the role IPR plays in a company.
4. Identify areas which are confidential.

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

4.4.1: Intellectual Property (IPR)

Elaborate

- Intellectual Property or IPR is very important for an organization.
- One should restrict or avoid giving such information to outsiders including customers of the company unless decided by the management otherwise.
- IPR includes but is not limited to:
 - Patents
 - Trade Marks
 - Industrial Designs
 - Plant Varieties (Factory Types)
 - Copyrights
 - Geographical Indications
 - Layout Design of an Integrated Circuit
 - Confidential Information

Type of Intellectual Property	Rights Covered
Copyright	Use or performance of original works of any type including any form of expression and literature
Patent	The use, manufacture or the sale of company inventions
Trademark	The use of symbols, words, names, picture, designs, logo or combination of all the above used by companies to identify particular products, brands or services
Trade Secrets	The privacy of data, documents, formulas or anything that is mentioned or maintained as confidential information

Fig 4.4.1.1: IPR

Tips

- Outsiders can include customers, family members, friends and competitors.
- If you leave the company, then too you are required to follow the confidential agreement of not sharing information about the company with your new employer.
- In case, student finds someone leaking confidential information, they should inform their supervisor or a higher authority in the company.



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5. Maintain Health and Safety at Workplace

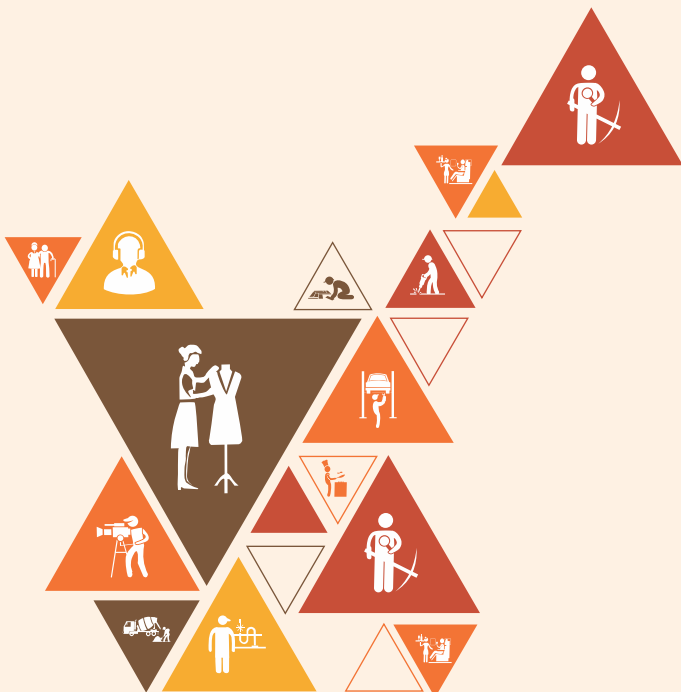
Unit 5.1 – Understand Potential Sources of Accidents

Unit 5.2 – Understand Safety Signs and Appropriate Requirements to be Safe

Unit 5.3 – Understand Ergonomics or Bad Posture of Body

Unit 5.4 – Fire Safety Rules

Unit 5.5 – Understand How to Deal with Emergency Situations



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Key Learning Outcomes

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

1. Understand safety procedures.
2. Identify potential work hazards.
3. Handle an emergency situation at work.
4. Conduct CPR in an emergency situation.
5. Identify type of fire.
6. Identify the right fire extinguisher for different types of fires.
7. Use a fire extinguisher.
8. Realize the importance of complying with company safety rules and regulations.

UNIT 5.1: Understand Potential Sources of Accidents

Unit Objectives

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

1. Identify the potential sources of accidents at their work place
2. Identify types of potential accidents
3. Prepare themselves to avoid the potential accident
4. Identify rectification measures for avoiding the potential accidents

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

5.1.1: Understand Potential Sources of Accidents

Elaborate



- Accidents or hazards mean an incident involving loss of life inside or outside the workplace, suffering injuries internally and/or externally, or release of toxic chemical or explosion or fire, or spilling of hazardous chemical resulting in 'on-site' or 'off-site' emergencies or damage to equipment's leading to stoppage of process or adverse effects to the environment.
- Accidents or hazards usually occur due to:
 - Faulty equipment
 - Improper working conditions
 - Faulty inspection or repairing an equipment or tool without the proper instructions
 - Irregular maintenance of equipment and tools
 - Repairing of faulty equipment by someone who is not qualified to repair
 - Lack of concentration or bringing personal tensions to work
 - Unsafe practices such as plugging wires directly into sockets without a plug
 - Not reading voltage instructions for imported equipment
 - Improper or insufficient safety training
 - Smoking in non-smoking zones
 - Storage of chemicals near heat emitting machines
 - Improper storage of chemicals
 - Improper work clothing or lack of protective gears
 - Exposed wires or wires bitten by rats or other animals
 - Wires with bad insulation
 - Improper electric connections
 - Using wrong tools and equipment in wrong place or plugging into wrong socket
 - Using too many wires in one spike guard or electric socket
 - Bad housekeeping which includes wet floors, sweeping not done, papers thrown on floor, dustbins not covered or emptied
 - Tools and equipment not stored properly after day's work
 - Not unplugging tools and equipment after day's work or during breaks
 - Leaving main switch on of tools and equipment after day's work
 - Non-reporting of hazards to supervisor or ignoring potential dangers

Field Visit



- Take you on a tour of their company or work department.
- Ask them to identify potential sources of accidents such as live wires, faulty equipment, chemicals stored incorrectly etc.

Example 



Fig 5.1.1.1: Example of a Potential Accident Area



Fig 5.1.1.2: Example of a Potential Accident Area

UNIT 5.2: Understand Safety Signs and Appropriate Requirements to be Safe

Unit Objectives



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

1. Identify safety signs at their work place
2. Act in time of emergency situations based on the safety signs and appropriate requirements
3. Identify safety gears that need to be used or worn while working and use it
4. Identify various types of safety signs
5. Refer to safety instructions to avoid any potential accidents
6. Understand importance of cleanliness of their work place

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Various safety signs used in factories
- Blank sheets of paper

5.2.1: Understanding Safety Signs

Elaborate

- The meaning and importance of different safety signs.
- To reduce risk of electric shock, always unplug tools and equipment after use.
- Always unplug tool and equipment before changing parts or servicing.
- Do not service tools and equipment if not trained to do so.
- A clean place is a safe place.
- Wear safety gear always such as eye goggles, gloves, apron, face masks, dust masks etc.
- Wash body part or eyes thoroughly with plenty of water if chemical spills on body or if chemical goes into the eyes.
- Use only known medicines, one should not act as a doctor unless trained in first aid.
- In an emergency situation, do not run, only walk to avoid hurting yourself and others.
- Use the stairs in an emergency and not the elevator.
- Know the routes to the emergency exits and flow the safety floor plan of your company.
- Do not rush back into an area which is dangerous for picking up your bag, leave it and exit as directed.
- Follow the evacuation steps provided by your company.

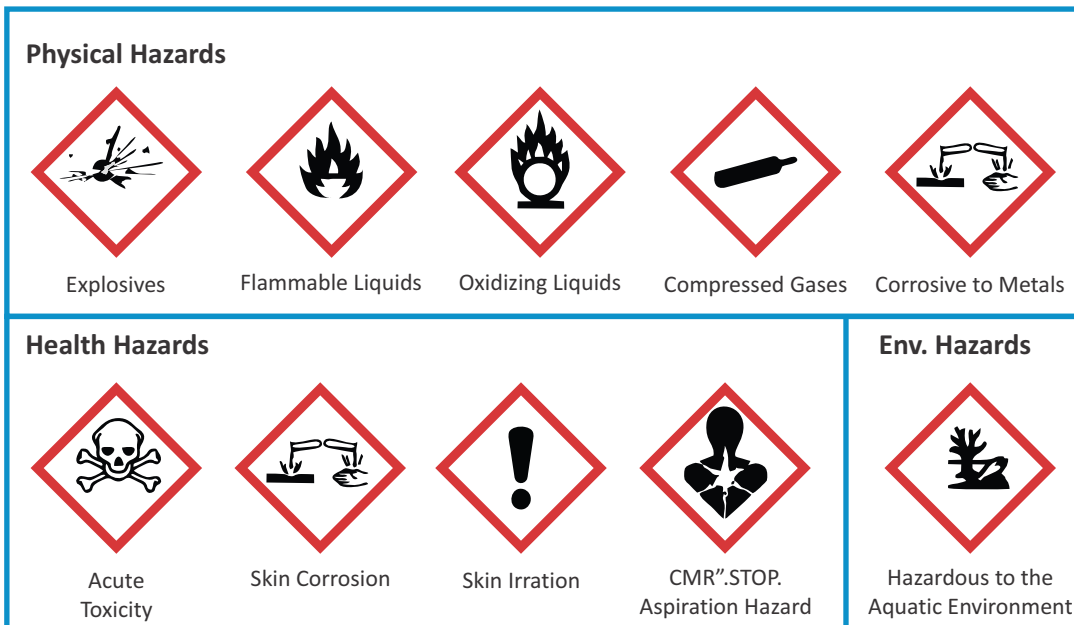


Fig 5.2.1.1: Safety Signs

Field Visit

- Take you on a tour of their company or work department.
- Ask them to identify safety signs and ask them to list the meaning of it.

5.2.2: Safety First

Elaborate



- It is important to wear safety gear while working with tools and equipment.
- Safety gear includes eye goggles, gloves, apron, face mask, dust mask etc.
- Check the voltage instructions before using equipment and tools that are imported to avoid short circuit.
- Follow housekeeping rules such as keeping the work place and work bench clean, unplugging electrical equipment and tools before going on breaks and after finishing the day's work.
- Use the right plug with the right pin for example if the equipment has been imported from the US, then the plug type will be different, do not use the Indian round plug point with this equipment, get a convertor.
- Circuits and spike guards should not be overloaded than its capacity.
- Check for wires that are running near areas where there is water or other chemicals that may cause a short circuit or potential fire.
- Check for wires that are twisted or the outer layer is torn making the inner wires visible.
- Wipe your hands dry before using any electric equipment or tool.
- Avoid wearing any metal jewellery as they can cause you to get a shock if there is a short circuit in an electric tool or equipment.
- Do not try to be a hero and try to contain the situation all by yourself.
- Work in teams to combat emergency situations.

Field Visit



- Take you on a tour of their company or work department.
- Ask them to identify the safety gears that are used in their company.
- Ask them to check their workplace and identify any areas that may be a threat to them in terms of safety.

UNIT 5.3: Understand Ergonomics or Bad Posture of Body

Unit Objectives

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

1. Identify the right body postures that will not affect their health
2. Learn to relax their body and not put strain on it while working
3. Identify right body postures while working with certain tools and equipment
4. Understand the need for right body posture
5. Identify areas where they constantly have pain during work
6. Understand importance of ergonomics and its effects on their health

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

5.3.1: Understand Ergonomics or Bad Posture of Body

Demonstrate

- Method to hold soldering pen or heat pen correctly to avoid strain on the shoulders.
- Correct and incorrect working postures for example: back bent, neck in the front, computer not at eye level, chair not having a proper back rest, high desk and low chair etc.

Say

- If there is constant pain in one area of the neck or head, one should get themselves checked by an orthopaedic.
- The wrong body postures can create health problems such as stiff necks, pain in the entire body, stiff shoulders, cervical spondylosis and many other problems.
- Drink a lot of water to keep yourself hydrated.
- If one is using the washroom often and is drinking a lot of water, then he/ she needs to check for any swelling of legs which could be the result of sitting in a wrong posture for a long time.

Do

- Show some easy stretching exercises to relax the muscles that can be done sitting on the chair.

UNIT 5.4: Fire Safety Rules

Unit Objectives

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

1. Identify the different types of fire
2. Identify the causes of fire
3. Identify right type of fire extinguisher and use it on different types of fire
4. Read if the fire extinguisher is refilled or not
5. Understand basic firefighting concepts
6. Know what to do if they are trapped in a fire situation

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- All types of fire extinguishers
- Towels, water, fire blankets
- Blank sheets of paper

5.4.1: Fire Safety Rules

Explain



- The different types, classes and symbols for fire that can occur in a factory or company.
- The fire safety rules that applies in general and specific to the company the you represent.
- The fire extinguisher codes and what type of fire are they used for.
- The importance of installation date, date of refilling and next due date mentioned on a fire extinguisher.
- RACE – Rescue, Alarm, Contain, Extinguish; basic concepts of firefighting upon discovery of fire or smoke.
- Stairs should be used during a fire rather than the elevator as the stairs are a safer option.
- The other materials that can be used if one is trapped in a fire such as towels or cloth soaked in water and placed on the edge of the door, placing a soaked napkin or cloth over the nose and mouth, lie low to avoid the smoke, torch and use of fire blankets.
- Things that should be avoided during a fire such as switching on the lights, using water on an electrical fire, running, blocking an exit, carrying bags or purses, hiding below wooden benches or near electrical areas.

Demonstrate



- How to raise a fire alarm using a sample fire alarm.
- How to use a soaked towel on the edge of the door and on oneself.
- How to lie low in a fire situation to avoid breathing the fumes.

Do



- Ask you to go through their company's fire evacuation plan.
- Fire drill with the company codes for fire response.

5.4.2: Using the Fire Extinguisher

Demonstrate

- How to hold a fire extinguisher using the PASS method – Pull, Aim, Squeeze, Sweep

Do

- Ask you for the fire emergency numbers that they are aware of.

Lab

- Ask you to demonstrate how to use a fire extinguisher individually.
- Give a fire type and ask you to give the type of extinguisher that needs to be used.

UNIT 5.5: Understand How to Deal with Emergency Situations

Unit Objectives

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

1. Identify the different types of emergency
2. Perform CPR
3. Use the first aid kit
4. Check the health of a person who has collapsed and follow the basic steps before medical help arrives
5. Contact the emergency numbers in India
6. Identify solutions to avoid similar emergencies in the future

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- First aid kit
- CPR kit
- Blank sheets of paper

5.5.1: Emergency Situations

Explain



- Different types of emergency situations that can occur such as:
- Fire or smoke: Is it fire or is it smoke, evaluate situation before taking next step.
- Evacuation: Earthquakes, building unstable are evacuation situations.
- Bomb threat: A bomb threat needs to be dealt by the police, do not try to be a hero, suspect any unknown objects that are not part of the daily work requirements.
- External emergency: Riots are the most common type of external emergency, always check with the local police station if it is safe to go outside, if it is not safe, stay within the company premises after keeping all the valuables in the safe.
- Internal emergency: Any fight between colleagues leading to a fist fight will come under internal emergency.
- Personal threat: Any person who is holding others as hostage with the aid of a weapon will be considered as a personal threat. Do not try to be a hero and disarm the assailant as this may result in injury or death to oneself or others.
- Medical emergency: If a person has collapsed or has had a heart attack, take necessary steps to ensure that medical help is on its way, don't try to move the person as this may result in complications, do not try to play doctor unless you have been trained to do CPR or first aid. Do not try to give medicines as you may never know what allergic complications may take place.

5.5.2: Dealing with Emergency Situations

Steps – Basic First Aid



STEP 1: Evaluate situation



STEP 2: Call for help



STEP 3: Care for the person



STEP 4: Check response

Fig 5.5.2.1: Basic First Aid

Tips

- Always participate in emergency drills organized by your company, you may never know when the knowledge will come in use.
- Ask company for a live demonstration of first aid administration.
- Check with company the contents of the first aid box and where it is kept.
- Always report an incident to your supervisor or others, rather than hiding it.

Steps – Basic CPR

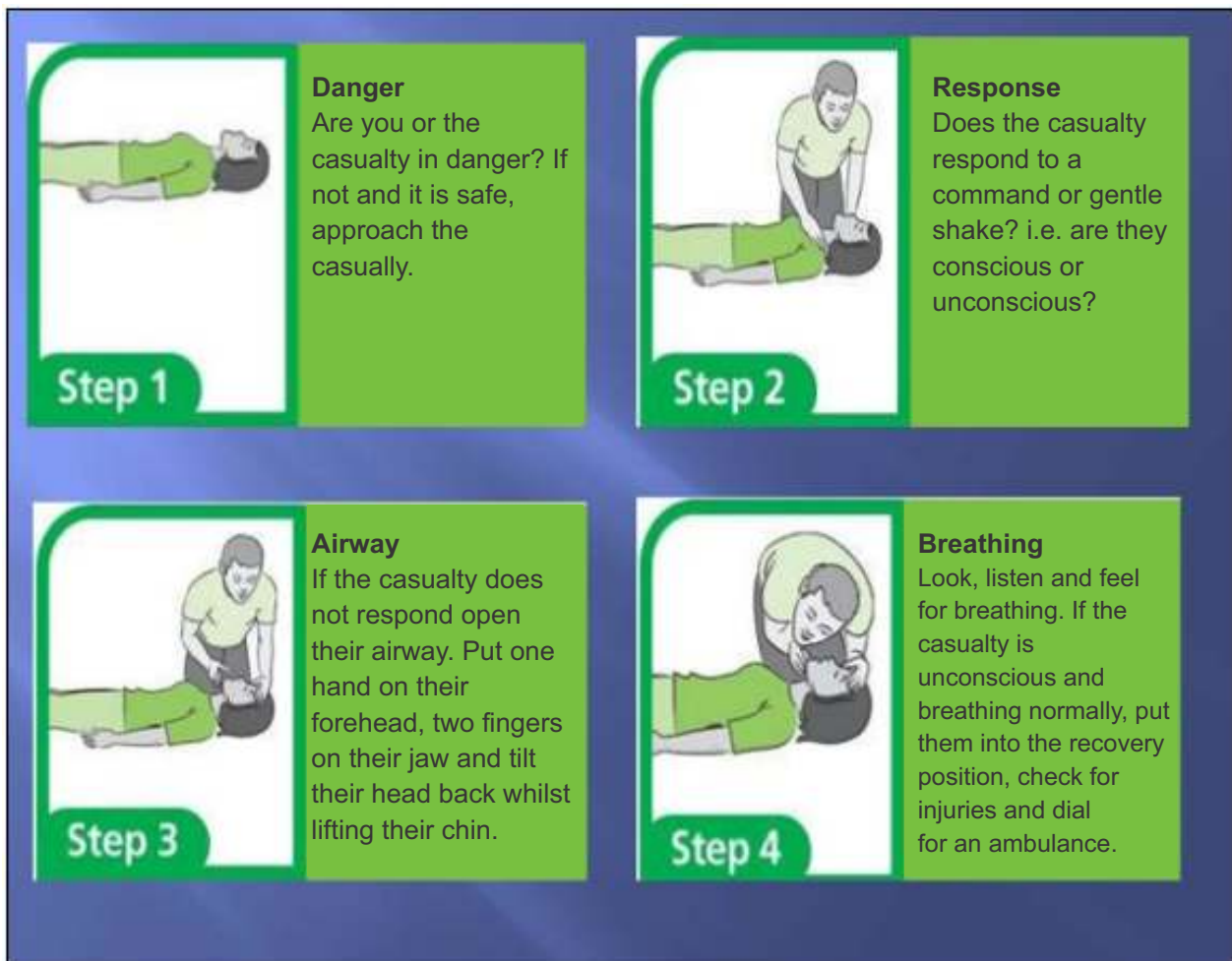


Fig 5.5.2.2: Basic CPR

Role Play

- Ask 4 you to volunteer for the role play of CPR.
- 2 you will act as the patient and 2 you will follow the basic first aid and the basic CPR steps.

5.5.3: Solving the Issue

Explain

- How to solve the emergency issues to avoid the same in the future.



Fig 5.5.3.1: Solving the Issue



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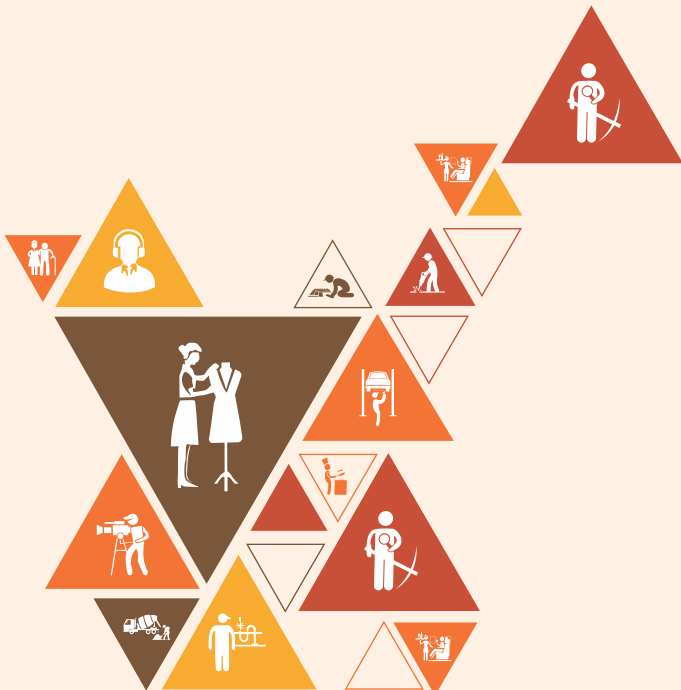


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6. Maintain IPR and Respect Copyright

Unit 6.1 - Scope of IPR

Unit 6.2 - Types of IPR



G&J/N9910

Key Learning Outcomes

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

1. Respect and maintain IPR.
2. Understand the importance of a company's policies on IPR and plagiarism.
3. Understand and identify patents and IPR laws.
4. Observe IPR violation and order leaks.
5. Prevent leak of new designs to competitors.
6. Be aware of the company's product and copy right.
7. Report to their supervisor if they find the same product in the market is used by other organisation.
8. Be aware about copy right clauses.

UNIT 6.1: Scope of IPR

Unit Objectives



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

- Protect the company's IPR
- Explain the importance of IPR to colleagues
- Discuss the role IPR plays in a company
- Identify areas which are confidential

Resources to be Used



- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

6.1.1: Scope of IPR

Elaborate



- Scope of IPR includes but is not limited to:
 - Understand to spot sign of violations and alert authorities in time
 - To spot plagiarism and report
 - Be aware of patents and IPR
 - Understand to learn from past mistakes and report IPR violations on time
 - Understand how to communicate IPR violations
 - Not to involve in IPR violations
 - To understand company's policies on IPR and plagiarism
 - To understand reporting structure
 - Understand importance of IPR in competitive market

UNIT 6.2: Types of IPR

Unit Objectives

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

- Identify areas which are confidential
- Identify types of IPR

Resources to be Used

- Whiteboard, whiteboard markers, notepads, pens
- LCD Projector attached to computer or laptop
- Blank sheets of paper

6.2.1: Intellectual property (IPR)

Elaborate

- Intellectual Property or IPR is very important for an organization.
- One should restrict or avoid giving such information to outsiders including customers of the company unless decided by the management otherwise.
- IPR includes but is not limited to:
 - Patents
 - Trade Marks
 - Industrial Designs
 - Plant Varieties (Factory Types)
 - Copyrights
 - Geographical Indications
 - Layout Design of an Integrated Circuit
 - Confidential Information

Type of Intellectual Property	Rights Covered
Copyright	Use or performance of original works of any type including any form of expression and literature
Patent	The use, manufacture or the sale of company inventions
Trademark	The use of symbols, words, names, picture, designs, logo or combination of all the above used by companies to identify particular products, brands or services
Trade Secrets	The privacy of data, documents, formulas or anything that is mentioned or maintained as confidential information

Fig 6.2.1.1: IPR

Tips

- Outsiders can include customers, family members, friends and competitors.
- If you leave the company, then too you are required to follow the confidential agreement of not sharing information about the company with your new employer.
- In case, student finds someone leaking confidential information, they should inform their supervisor or a higher authority in the company.



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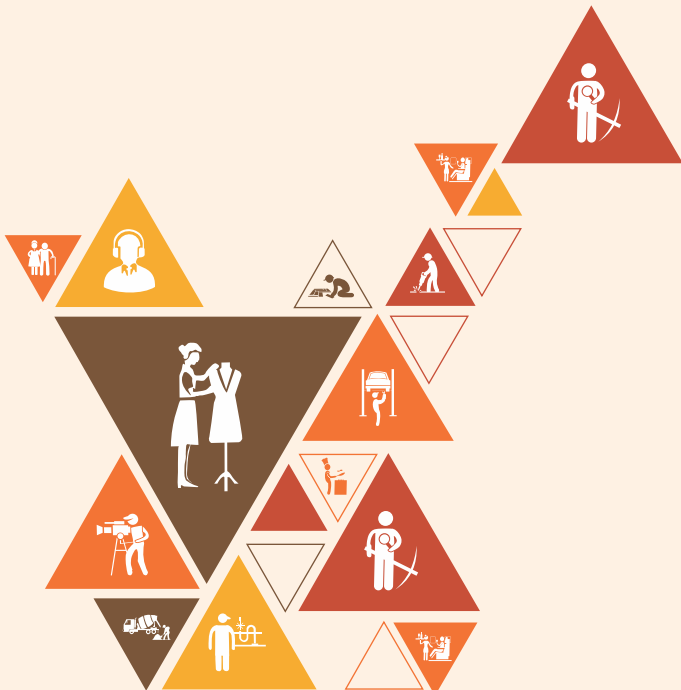


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7. Annexures

Annexure I – Training Delivery Plan

Annexure II – Assessment Criteria



Annexure I

Training Delivery Plan

Training Delivery Plan			
Program Name:	Polisher and Cleaner		
Qualification Pack Name & Ref. ID	G&J/Q0701, v3.0		
Version No.	3.0	Version Update Date	N. A
Pre-requisites to Training (if any)	Preferably 10th standard Passed		
Training Outcomes	<p>By the end of this program, the participants will be able to:</p> <ol style="list-style-type: none"> Polish and Clean the Completed Jewellery Frame and Components: Finishing the jewellery frame and cleaning it in order to give it the look that the design requires. Coordinate with Others: Respecting intellectual property rights of company's products and designs to avoid infringement. Maintain Health and Safety at Workplace: Encouraging artisan to work as a team and multitask and communicate with colleagues. Maintain IPR and Respect Copyright: Familiarising artisan towards potential hazards in order to make work environment safe for everyone. 		

Sl. No	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools/Aids	Duration
1	Introduction	Icebreaker	<ul style="list-style-type: none"> • Introduce each other • Build rapport with fellow you and the trainer • Induce you to take part in group activities • Create team building exercises for upcoming modules • Understand the you level of knowledge and skill 	NA	<ul style="list-style-type: none"> • Interactive session 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens, loose blank paper sheets, permanent marker, safety pins, scissors, 30 blank paper sheets 4 x 2 inches 	0.50 hour
2	Introduction	Gem and Jewellery Sector in India	<ul style="list-style-type: none"> • Familiarize themselves with the Gem and Jewellery industry of India • Endorse the huge significance of the Gem and Jewellery industry on India's export market • Discuss the market segments for various types of products manufactured by this industry • Create awareness of the involvement of this industry in the growth of the India • Identify the growth pattern of this industry • Discuss about the career growth in this industry 	NA	<ul style="list-style-type: none"> • Powerpoint presentation 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens, • Computer or Laptop attached to LCD projector 	0.75 hour

3	Introduction	Objectives of the Program	<ul style="list-style-type: none"> • Explain the jewellery manufacturing process to other you or work colleagues • Explain the need for polishing and cleaning in the jewellery manufacturing process • Apply procedures to enamel a jewellery piece • Apply procedures to clean a jewellery piece • Apply procedures to polish a jewellery piece • Apply procedures to plate a jewellery piece 	NA	<ul style="list-style-type: none"> • Facilitator led discussion • Interactive session 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector 	0.50 hour
4	Introduction	Where Do Polisher and Cleaner Fall in the Jewellery Making Process	<ul style="list-style-type: none"> • Deliberate about where polishing and cleaning comes in the jewellery casting process • Explain the overview of the jewellery manufacturing process to other you or colleagues 	NA	<ul style="list-style-type: none"> • Facilitator led discussion • Interactive session • Powerpoint presentation 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector 	1.00 hour
5	Introduction	Job Opportunities for a Polisher and Cleaner	<ul style="list-style-type: none"> • Discuss about the job scope of a Polisher and Cleaner • Refer to the different workplaces a polisher and cleaner can be employed in or can work in • Interact with different organizations 	NA	<ul style="list-style-type: none"> • Facilitator led discussion • Interactive session 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector 	1.00 hour

			about the type of workplace				
6	Polish and Clean the Completed Jewellery Frame and Components	Introduction to Jewellery Making Process	<ul style="list-style-type: none"> Explain the jewellery manufacturing processes to colleagues Explain how metal is melted and processed into metal bars Describe the handmade jewellery manufacturing process Describe the casted jewellery manufacturing process Describe the chain making process Gauge their importance in the jewellery manufacturing process chain 	G&J/N0701 - KA2, KA3, KB1	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Field Visit - Factory 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector 	6.00 hours
7	Polish and Clean the Completed Jewellery Frame and Components	Job Work of a Polisher and Cleaner	<ul style="list-style-type: none"> Describe their job work to colleagues Use the appropriate terms as per Indian and International market requirements Identify the tools and equipment used for polishing and cleaning Implement learnings of a well-organized work area in their work place Realize the importance of a well-organized and clean work place 	G&J/N0701 - KA5, SA1, SB3, SB4, SB15, SB17	<ul style="list-style-type: none"> Powerpoint presentation, Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector 	4.00 hours
8	Polish and Clean the Completed Jewellery Frame and	Types of Jewellery	<ul style="list-style-type: none"> Identify the different types of jewellery Identify the unique type of jewellery manufactured only in India 	G&J/N0701 - KA5, KB1, SA1, SB2,	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Activity – Identification of types and 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens 	8.00 hours

	Components		<ul style="list-style-type: none"> Explain the process of creating the unique type of jewellery manufactured only in India Relate to the local Indian terms used for jewellery manufacturing 		categories of jewellery	<ul style="list-style-type: none"> Computer or Laptop attached to LCD projector Blank job sheets Different types of jewellery manufactured in India Different categories of jewellery 	
9	Polish and Clean the Completed Jewellery Frame and Components	Introduction to Diamonds and Gemstones	<ul style="list-style-type: none"> Learn the basics of handling a stone Explain 4Cs of a diamond Gain basic knowledge of gemstone shapes and cuts Identify the risks with diamonds 	G&J/N0701 - PC8, KB4, SA1, SB1,	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Practical – Viewing diamonds and gemstones 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens LCD Projector attached to computer or laptop CZ stones, diamonds, red glass stones, gemstones, 10x loupe or magnifying lens, tweezers, gem cloth, stone measuring gauge, matching tray Blank sheets of paper 	5.0 hours
10	Polish and Clean the Complete	Types of Settings	<ul style="list-style-type: none"> Identify the basic and advanced setting techniques 	G&J/N0701 - KB4, SB1	<ul style="list-style-type: none"> Powerpoint presentation 	<ul style="list-style-type: none"> Whiteboard, whiteboard 	5.00

	d Jewellery Frame and Components		<p>for diamonds and gemstones</p> <ul style="list-style-type: none"> Identify which setting is risky and difficult to work with Identify potential defects that may arise from certain settings Categorize the different terms of settings used in the Indian as well as International market 		<ul style="list-style-type: none"> Facilitator led discussion Activity – Identification of basic and advanced setting styles 	<p>markers, notepads, pens</p> <ul style="list-style-type: none"> LCD Projector attached to computer or laptop Jewellery samples of different setting styles Blank sheets of paper 	hours
11	Polish and Clean the Completed Jewellery Frame and Components	Enamelling	<ul style="list-style-type: none"> Implement the enamelling or minakari/ meenakari process in their job work Identify the raw materials for enamelling Identify tools and equipment required for enamelling Identify areas of issues while enamelling Identify types of enamel used in jewellery production Prepare the right type of enamel for further working Create enamelled jewellery pieces 	G&J/N0701 - KB4, SA1, SA4, SB1	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Activity – Identification of types of enamel Practical - Preparing the enamel, Enamelling process 	<p>Whiteboard, whiteboard markers, notepads, pens</p> <ul style="list-style-type: none"> LCD Projector attached to computer or laptop Different types of enamel powder, enamel glass, enamel lump, mortar and pastel set, hammer, bottled or distilled water, empty containers, sterling silver sheet (thickness of minimum 	14.0 hours

						<p>1.3mm), diluted solution of hot sulphuric acid (1 part of acid to 10 parts of water), glass or ceramic bowl, cleaning brush, engraving tool set, glass cleaning brush, tub of water or running water, burnishing tool set, spatula, flux or borax, absorbent towel, paint brushes (different head sizes starting with 0.000), furnace or electrically heated oven, grades 280-400 grit sandpaper, dry cloth, polishing tools, buffing machines with different buff</p>	
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						<ul style="list-style-type: none"> wheels, work bench, work apron, eye goggles, hand gloves, dust mask Blank sheets of paper 	
12	Polish and Clean the Completed Jewellery Frame and Components	Plating	<ul style="list-style-type: none"> Identify the different types of tools and equipment required for plating Differentiate between the different techniques of plating Explain the different techniques of plating to colleagues Identify specific metal plating technique for gold Identify specific metal plating technique for silver Differentiate silver plating and rhodium plating 	G&J/N0701 - PC1, KB4, KB6, SA1, SA4, SB1,	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstrate and Practical – plating techniques, metal plating 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens LCD Projector attached to computer or laptop Plating tools and equipment or plating station, jewellery hanging rack for plating or copper wires, plain water, distilled or bottled water, silver chain, copper jewellery, silver jewellery, gold jewellery, hand gloves (surgical), containers 	10.00 hours

						<p>for water, soft cloth, chemicals for silver plating, gold plating and rhodium plating</p> <ul style="list-style-type: none"> Blank sheets of paper 	
13	Polish and Clean the Completed Jewellery Frame and Components	Introduction to Jewellery Polishing	<ul style="list-style-type: none"> Explain the importance of polishing jewellery to colleagues Differentiate between basic and advanced techniques of polishing Identify the advantages of polishing Identify the disadvantages of polishing Differentiate between lapping/split lapping/rough cut, polishing and buffing 	G&J/N0701 - KB4, SB5, SB6, SB8	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstrate and Practical – Basic jewellery polishing 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens LCD Projector attached to computer or laptop Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask Blank sheets of paper 	5.00 hours
14	Polish and Clean the Completed Jewellery Frame and	Types of Finish	<ul style="list-style-type: none"> Explain the importance of applying metal finish to jewellery pieces Differentiate between various 	G&J/N0701 - PC1, SA1, SA2, SB1, SB3,	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstration and practical – Metal finish 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens 	8.00 hours

	Components		<p>types of metal finish</p> <ul style="list-style-type: none"> Identify the advantages of each type of metal finish Identify the disadvantages of each type of metal finish Apply the process of creating the different types of metal finish on jewellery pieces 			<ul style="list-style-type: none"> LCD Projector attached to computer or laptop Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask, hammer with detachable finish heads, graver tools, muslin cloth, jewellery showcasing the 9 different types of metal finish, jewellery showcasing other types of finish than the 9 Blank sheets of paper 	
15	Polish and Clean the Completed	Pre-Polishing Process	<ul style="list-style-type: none"> Classify the pre-polishing stage Classify the final polishing stage 	G&J/N0701 - PC7, KB2, KB5, SA4,	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, 	70 hours

	<p>Jewellery Frame and Components</p>		<ul style="list-style-type: none"> • Implement the steps of polishing • Identify the names of all types of polishing • Identify the correct procedure for polishing jewellery • Identify the different types of files and their importance • Use the appropriate tools and equipment required for the pre-polishing stage 	<p>SB1, SB3, SB6</p>	<ul style="list-style-type: none"> • Demonstrate and practical – Filing, emery paper, stick and stone polishing, rubber polishing, burs, mandrels, pendant motor, thread polishing, burs and their use • Team activity – magnetic polishing, media polishing 	<p>notepads, pens</p> <ul style="list-style-type: none"> • LCD Projector attached to computer or laptop • Silver jewellery, gold jewellery, buffing machine, buff wheels, different polishing compounds, gloves, work apron, eye goggles, dust mask, hammer with detachable finish heads, graver tools, muslin cloth, file set, work bench, bench pin, emery paper or sticks or stones, rubber bur attachments, bur attachments, mandrel attachments, pendant motor, thread polisher, magnetic polisher, liquid soap, water bucket, magnetic polisher steel pins, media 	
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						<p>polisher, different types of media required for polishing, cylindrical rubber bur, round rubber wheel, round bur, round bur small size, plastic round bur, metal bur, round cloth bur, leather bur, hair bur, metal sheet 6x6 inches per student, flex shaft with motor</p> <ul style="list-style-type: none"> Blank sheets of paper 	
16	Polish and Clean the Completed Jewellery Frame and Components	Cleaning Process	<ul style="list-style-type: none"> Identify the different types of cleaners Identify the different types of cleaning machines Implement the knowledge acquired to operate cleaning machines Identify areas of work process where cleaning of metal is required Identify pros and cons of cleaning machines 	G&J/N0701 - PC2, KB4, KB5, SB4, SB5	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstrate and team activity – cleaning of metal, cleaning machines 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens LCD Projector attached to computer or laptop Blank job sheets Casted metal with investment on it, pickling solution, tumbling machine, bombing and 	8.00 hours

						stripping machine, ultrasonic cleaning machine, steam cleaner, boiling water, metal bowl, soft cloth, soft toothbrush, jewellery cleaning solutions, liquid soap, tweezers, water resistant gloves, heat resistant gloves, work apron, table	
17	Polish and Clean the Completed Jewellery Frame and Components	Final Polishing or Buffing	<ul style="list-style-type: none"> Do the final polishing or buffing on the jewellery pieces Identify the important aspects of final polishing or buffing Identify the tools and equipment for final polishing or buffing Understand and implement the speed requirements for the final polish on a machine Identify the different types of buff and polish wheels Use the right buff and polish wheel 	G&J/N0701 - PC1, PC7, PC8, KB2, KB3, SA1, SA2, SA4, SB1, SB2, SB3, SB6, SB7, SB8	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstrate and practical – holding the item correctly for polishing, buffing with buffing wheel, buffing with compounds, buffing 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens LCD Projector attached to computer or laptop Blank job sheets Gold jewellery, silver jewellery, platinum jewellery, copper jewellery, 	28.00 hours

			as per design requirements			jewellers rouge or rouge polishing compound, polishing motor, buffing motor, buffing wheel set, black emery polishing compound, brown tripoli buffing compound, white rouge polishing compound, gloves, dust mask, eye goggles, work apron, table for keeping motor	
18	Polish and Clean the Completed Jewellery Frame and Components	Controlling Gold Loss	<ul style="list-style-type: none"> Control metal loss Identify the areas where metal loss can take place Use the appropriate tools and machines to recover metal loss 	G&J/N0701 - PC1, PC3, PC4, PC5, KA1, SA3, SB9, SB10, SB11, SB12, SB13, SB14	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens LCD Projector attached to computer or laptop Blank job sheets Work bench, dust collector, bench 	2.0 hours

						brush, water bucket, fine size sieve	
19	Polish and Clean the Completed Jewellery Frame and Components	Detecting Product Defects	<ul style="list-style-type: none"> • Identify defects in jewellery pieces that have come for polishing • Identify defects made during the pre-polishing stage • Identify defects made during the cleaning stage • Identify defects made during the final polishing or buffing stage • Identify the reasons for defect • Repair defects • Report defects that are not repairable to supervisor 	G&J/N0701 - PC8, PC9, PC10, KA1,	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Practical – defect repairing 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • LCD Projector attached to computer or laptop • Jewellery pieces, all cleaning machines, all tools and equipment for cleaning, buffing motor, buff wheel set, buff compounds, gloves, cleaning solutions, all pre-polishing machines, all pre-polishing tools and equipment, eye goggles, dust mask, work apron, table for placing machines 	6.0 hours

						<ul style="list-style-type: none"> Blank sheets of paper 	
20	Polish and Clean the Completed Jewellery Frame and Components	Achieving Quality Standards	<ul style="list-style-type: none"> Differentiate between Quality Control, Quality Assurance and Quality Standards Achieve the quality standards of their organization and aim higher 	G&J/N0701 - PC6, PC7, PC8, PC9, PC10, KA1, SA6	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector Blank sheets 	2.00 hours
21	Polish and Clean the Completed Jewellery Frame and Components	Maintaining Quality of Production	<ul style="list-style-type: none"> Know their organization's policy on quality of production Maintain quality of production by detecting defects at an early stage 	G&J/N0701 - PC11, KA1, SB15, SB18	<ul style="list-style-type: none"> Powerpoint presentation Team activity Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector Blank sheets 	2.00 hours
22	Polish and Clean the Completed Jewellery Frame and Components	Know Your Organization and Its Standards	<ul style="list-style-type: none"> Understand their organizations goals and mission Know their skills, company products and company quality standards 	G&J/N0701 - KA1, KA4	<ul style="list-style-type: none"> Powerpoint presentation Team activity Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector Blank sheets 	2.00 hours
23	Polish and Clean the Completed Jewellery Frame and Components	Work Hazards	<ul style="list-style-type: none"> Identify the hazards in their work area Provide potential solutions to the hazard 	G&J/N0701 - PC2, KA1, KB6, SB5, SB16	<ul style="list-style-type: none"> Powerpoint presentation Team activity Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector 	2.00 hours

						• Blank sheets	
24	Co-ordinate with Co-workers	Importance of Interaction and Coordination	<ul style="list-style-type: none"> • Know the importance of interaction and coordination • Identify gap areas in their interaction and coordination with co-workers, supervisor and others • Identify key elements required for coordination and interaction • Implement the learnings in their job role 	G&J/N9912 KA1, KA2, KA3, KA4, KB1, KB2, SA1, SA2, SB1, SB2, SB3, SB4	<ul style="list-style-type: none"> • Powerpoint presentation • Exercise • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	3.00 hours
25	Co-ordinate with Co-workers	Interact with Supervisor	<ul style="list-style-type: none"> • Know the importance of interaction with their supervisor • Identify gap areas in their interaction and coordination with their supervisor • Identify key elements required for coordination and interaction • Implement the learnings in their job role 	G&J/N9912 PC1, PC2, PC3	<ul style="list-style-type: none"> • Powerpoint presentation • Exercise • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	3.00 hours
26	Co-ordinate with Co-workers	Interact with Colleagues and Other Departments	<ul style="list-style-type: none"> • Know the importance of interaction with colleagues and other departments • Identify gap areas in their interaction and coordination with colleagues and other departments • Identify key elements required for coordination and interaction • Implement the learnings in their job role 	G&J/N9912 PC4, PC5	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	3.00 hours
27	Co-ordinate	Interacting with Outside Parties	<ul style="list-style-type: none"> • Protect the company's IPR 	G&J/N9912 PC2	<ul style="list-style-type: none"> • Powerpoint presentation 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, 	3.00

	with Co-workers		<ul style="list-style-type: none"> • Explain the importance of IPR to colleagues • Discuss the role IPR plays in a company • Identify areas which are confidential 		<ul style="list-style-type: none"> • Facilitator led discussion 	<ul style="list-style-type: none"> notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	hours
28	Maintain Health and Safety at Workplace	Understand potential sources of accidents	<ul style="list-style-type: none"> • Identify the potential sources of accidents at their work place • Identify types of potential accidents • Prepare themselves to avoid the potential accident • Identify rectification measures for avoiding the potential accidents 	G&J/N9914 PC1, PC2, PC3, KA1, KB1, KB2, SB3, SB4	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Field visit 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	5.00 hours
29	Maintain Health and Safety at Workplace	Understand potential sources of accidents	<ul style="list-style-type: none"> • Identify the potential sources of accidents at their work place • Identify types of potential accidents • Prepare themselves to avoid the potential accident • Identify rectification measures for avoiding the potential accidents 	G&J/N9914 PC1, PC2, PC3, KA1, KB1, KB2, SB3, SB4	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Field visit 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	5.00 hours
30	Maintain Health and Safety at Workplace	Understand Safety Signs and Appropriate Requirements to be Safe	<ul style="list-style-type: none"> • Identify safety signs at their work place • Act in time of emergency situations based on the safety signs and appropriate requirements • Identify safety gears that need to be used or worn while working and use it • Identify various types of safety signs • Refer to safety instructions to avoid any potential accidents 	G&J/N9914 PC1, PC2, PC3, KA1, KB2, SB1	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Field visit 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets • Various safety signs used in factories 	5.00 hours

			<ul style="list-style-type: none"> Understand importance of cleanliness of their work place 				
31	Maintain Health and Safety at Workplace	Understand ergonomics or bad posture of body	<ul style="list-style-type: none"> Identify the right body postures that will not affect their health Learn to relax their body and not put strain on it while working Identify right body postures while working with certain tools and equipment Understand the need for right body posture Identify areas where they constantly have pain during work Understand importance of ergonomics and its effects on their health 	G&J/N9914 PC1, PC2, PC3, KA1, KB2	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstration – Right and wrong body postures 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector Blank sheets 	3.00 hours
32	Maintain Health and Safety at Workplace	Fire Safety Rules	<ul style="list-style-type: none"> Identify the different types of fire Identify the causes of fire Identify right type of fire extinguisher and use it on different types of fire Read if the fire extinguisher is refilled or not Understand basic firefighting concepts Know what to do if they are trapped in a fire situation 	G&J/N9914 PC1, PC2, PC3, KA1, KB3	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstration – Fire situations, using fire extinguisher Lab – Practice using the fire extinguisher 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector Blank sheets All types of fire extinguishers Towels, water, fire blankets 	5.00 hours
33	Maintain Health and Safety at Workplace	Understand How to Deal with Emergency Situations	<ul style="list-style-type: none"> Identify the different types of emergency Perform CPR Use the first aid kit 	G&J/N9914 PC1, PC2, PC3, KA1, SB2, SB5, SB6	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, 	5.00 hours

			<ul style="list-style-type: none"> • Check the health of a person who has collapsed and follow the basic steps before medical help arrives • Contact the emergency numbers in India • Identify solutions to avoid similar emergencies in the future 		<ul style="list-style-type: none"> • Role play – CPR, first aid 	<ul style="list-style-type: none"> • notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets • First aid kit • CPR kit 	
34	Maintain IPR and Respect Copyright	Scope of IPR	<ul style="list-style-type: none"> • Protect the company's IPR • Explain the importance of IPR to colleagues • Discuss the role IPR plays in a company • Identify areas which are confidential 	G&J/N9910 PC1, PC2, PC3, KA1, KA2, KA3, KA4, KB1, KB2, SA1, SB1, SB2, SB3	<ul style="list-style-type: none"> • Powerpoint presentation • Team activity • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	1.50 hours
35	Maintain IPR and Respect Copyright	Types of IPR	<ul style="list-style-type: none"> • Identify areas which are confidential • Identify types of IPR 	G&J/N9910 PC1, PC2, PC3, KA1, KA2, KA3, KA4, KB1, KB2, SA1, SB1, SB2, SB3	<ul style="list-style-type: none"> • Powerpoint presentation • Team activity • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	1.50 hours
36	Employability & Entrepreneurship Skills	Personal Strengths & Value Systems	<ul style="list-style-type: none"> • Explain the meaning of health • List common health issues • Discuss tips to prevent common health issues • Explain the meaning of hygiene • Understand the purpose of Swacch Bharat Abhiyan • Explain the meaning of habit 	NA	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Exercise – Motivation • Activity – Anger Management 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	5.00 hours

			<ul style="list-style-type: none"> • Discuss ways to set up a safe work environment • Discuss critical safety habits to be followed by employees • Explain the importance of self-analysis • Understand motivation with the help of Maslow's Hierarchy of Needs • Discuss the meaning of achievement motivation • List the characteristics of entrepreneurs with achievement motivation • List the different factors that motivate them • Discuss how to maintain a positive attitude • Discuss the role of attitude in self-analysis • List their strengths and weaknesses • Discuss the qualities of honest people • Describe the importance of honesty in entrepreneurs • Discuss the elements of a strong work ethic • Discuss how to foster a good work ethic • List the characteristics of highly creative and innovative people • Discuss the benefits of time management 				
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			<ul style="list-style-type: none"> List the traits of effective time managers Describe effective time management technique Discuss the importance of anger management Describe anger management strategies Discuss tips for anger management Discuss the causes and symptoms of stress Discuss tips for stress management 				
37	Employability & Entrepreneurship Skills	Digital Literacy: A Recap	<ul style="list-style-type: none"> Identify the basic parts of a computer Identify the basic parts of a keyboard Recall basic computer terminology Recall basic computer terminology Recall the functions of basic computer keys Discuss the main applications of MS Office Discuss the benefits of Microsoft Outlook Discuss the different types of e-commerce List the benefits of e-commerce for retailers and customers Discuss how the Digital India campaign will help boost e-commerce in India Describe how you will sell a product or service on an e- 	NA	<ul style="list-style-type: none"> Powerpoint presentation Facilitator led discussion Demonstrate – Basics of computers Activity – E-Commerce 	<ul style="list-style-type: none"> Whiteboard, whiteboard markers, notepads, pens Computer or Laptop attached to LCD projector Blank sheets Computers, laptops, keyboards, mouse, printer, speakers, MS office installed on computer desktops or laptops per student 	8.00 hours

			commerce platform				
38	Employability & Entrepreneurship Skills	Money Matters	<ul style="list-style-type: none"> • Discuss the importance of saving money • Discuss the benefits of saving money • Discuss the main types of bank accounts • Describe the process of opening a bank account • Differentiate between fixed and variable costs • Describe the main types of investment options • Describe the different types of insurance products • Describe the different types of taxes • Discuss the uses of online banking • Discuss the main types of electronic funds transfers 	NA	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	5.00 hours
39	Employability & Entrepreneurship Skills	Preparing for Employment & Self Employment	<ul style="list-style-type: none"> • Discuss the steps to prepare for an interview • Discuss the steps to create an effective Resume • Discuss the most frequently asked interview questions • Discuss how to answer the most frequently asked interview questions • Discuss basic workplace terminology 	NA	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Role play – Interview • Activity – Resume writing • Team activity – Interview FAQs 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector • Blank sheets 	5.00 hours
40	Employability & Entrepreneurship Skills	Understanding Entrepreneurship	<ul style="list-style-type: none"> • Discuss the concept of entrepreneurship 	NA	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens 	5.00 hours

			<ul style="list-style-type: none"> • Discuss the importance of entrepreneurship • Describe the characteristics of an entrepreneur • Describe the different types of enterprises • List the qualities of an effective leader • Discuss the benefits of effective leadership • List the traits of an effective team • Discuss the importance of listening effectively • Discuss how to listen effectively • Discuss the importance of speaking effectively • Discuss how to speak effectively • Discuss how to solve problems • List important problem solving traits • Discuss ways to assess problem solving skills • Discuss the importance of negotiation • Discuss how to negotiate • Discuss how to identify new business opportunities • Discuss how to identify business opportunities within your business • Understand the meaning of entrepreneur 			<ul style="list-style-type: none"> • Computer or Laptop attached to LCD projector • Blank sheets 	
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			<ul style="list-style-type: none"> • Describe the different types of entrepreneurs • List the characteristics of entrepreneurs • Recall entrepreneur success stories • Discuss the entrepreneurial process • Describe the entrepreneurship ecosystem • Discuss the government's role in the entrepreneurship ecosystem • Discuss the current entrepreneurship ecosystem in India • Understand the purpose of the Make in India campaign • Discuss the relationship between entrepreneurship and risk appetite • Discuss the relationship between entrepreneurship and resilience • Describe the characteristics of a resilient entrepreneur • Discuss how to deal with failure 				
41	Employability & Entrepreneurship Skills	Preparing to be an Entrepreneur	<ul style="list-style-type: none"> • Discuss how market research is carried out • Describe the 4 Ps of marketing • Discuss the importance of idea generation • Recall basic business terminology 	NA	<ul style="list-style-type: none"> • Powerpoint presentation • Facilitator led discussion • Exercise – From PH – Enterprise management 	<ul style="list-style-type: none"> • Whiteboard, whiteboard markers, notepads, pens • Computer or Laptop attached to LCD projector 	5.00 hours

			<ul style="list-style-type: none"> • Discuss the need for CRM • Discuss the benefits of CRM • Discuss the need for networking • Discuss the benefits of networking • Understand the importance of setting goals • Differentiate between short-term, medium-term and long-term goals • Discuss how to write a business plan • Explain the financial planning process • Discuss ways to manage your risk • Describe the procedure and formalities for applying for bank finance • Discuss how to manage your own enterprise • List important questions that every entrepreneur should ask before starting an enterprise 			<ul style="list-style-type: none"> • Blank sheets 	
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Annexure II

Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

Assessment Criteria	
Job Role	Polisher and Cleaner
Qualification Pack	G&J/Q0701
Sector Skill Council	Gem & Jewellery Skill Council of India

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3	Individual assessment agencies will create theory question papers for candidates at every examination/training centre. (as per assessment criteria below)
4	Individual assessment agencies will create practical tests for skill evaluation for candidates at every examination/training centre. (as per assessment criteria below)
5	To pass the Qualification Pack, every candidate should score a minimum of 50% in theory and 70% in practical to successfully clear the assessment
6	In case of successfully passing only certain number of NOS's, the candidate is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessment outcome (NOS Code and Description)	Assessment criteria (PC)	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
1. G&J/N0701 Polish, clean and finish the jewellery	PC1. achieve finish as per design requirement with minimum gold loss and damage	75	12	2	10
	PC2. avoid accidents while buffing and using acids for cleaning.		10	2	8
	PC3. maintain precious-metal loss as per company's loss margin policy		12	2	10






	PC4. conduct regular dust cleaning process and methodology as prescribed by company		10	2	8
	PC5. Maintain accounts and related documentation		3	0	3
	PC6. make timely delivery to next process		3	0	3
	PC7. polish number of frames and components as per target deliverable and of design quality		2	0	2
	PC8. deliver defect free and evenly finished jewellery		8	0	8
	PC9. achieve minimum damage after polishing and cleaning process		10	2	8
	PC10. deliver maximum number of QC-okayed frame or component		2	0	2
	PC11. deliver complete product on time by reporting problems faced or anticipated well in advance		3	0	3
		Total	75	10	65
2. G&J/N9910 Maintain IPR and respect copyright	PC1. Spot plagiarism and report	9	4	2	2
	PC2. understand rationale of patents and IPR		3	1	2
	PC3. avoid being involved in IPR violations		2	1	1
	Total	9	4	5	
3. G&J/ N9912 Coordinate with co-workers	PC1. Understand the work output requirements	8	2	1	1
	PC2. Understand company policy and rule		2	1	1






	PC3. Deliver quality work on time as required by reporting any anticipated reasons for delays		1	0	1
	PC4. Put team over individual goals		1	0	1
	PC5. resolve conflicts and multi-task		2	1	1
		Total	8	3	5
4. G&J/ N9914 Maintain safe work environment	PC1. Spot and report potential hazards on time	8	4	2	2
	PC2. Follow company policy and rules regarding use of hazardous materials		2	0	2
	PC3. Deliver quality work on time as required by reporting any anticipated reasons for delays		2	1	1
		NOS Total	8	3	5
		QP Total	100	20	80


Do

- Explain each Guideline for Assessment in detail.
- Explain the score that each trainee needs to obtain.
- Recapitulate each NOS one-by-one and take participants through the allocation of marks for Theory and Skills Practical.
- Explain the Allocation of Marks.
- Explain that they will be assessed on Theory and Skills Practical.
- Explain that for the first NOS, 24 marks are allotted for Theory and & 86 for Skills Practical.

Annexure: Chapter wise QR codes

Chapter No.	Unit No.	Topic Name	Page No.	Url	QR code (s)
Chapter 1 Introduction	UNIT 1.2: Gem and Jewellery Sector in India	1.2.1: Significance of Gem and Jewellery Sector in India	6	https://www.youtube.com/watch?v=nKY1AbPz668&t=1s	 Gem & Jewellery industry Orientation
Chapter 1 Introduction	UNIT 1.4: Where Do Polisher and Cleaner Fall in the Jewellery Making Process	1.4.1: Jewellery Making Process	10	https://youtu.be/XEn-Cq2pDLc	 Indian Heritage & Crafts in Global Market 1
Chapter 1 Introduction	UNIT 1.4: Where Do Polisher and Cleaner Fall in the Jewellery Making Process	1.4.1: Jewellery Making Process	10	https://youtu.be/1NZ-1Gxpos4	 Indian Heritage & Crafts in Global Market 2
2. Polish, Clean and finish the Jewellery Part - I	UNIT 2.1: Introduction to Jewellery Making Process	2.1.1: Jewellery Making Process	18	https://drive.google.com/file/d/1eWzT-AO66CBSbpcdkpl6cY8qXMseP25/view?usp=sharing	 Introduction to Precious Metal
2. Polish, Clean and finish the Jewellery Part - I	UNIT 2.3: Types of Jewellery	2.3.1: Types of Indian Jewellery	25	https://drive.google.com/file/d/1eWzT-AO66CBSbpcdkpl6cY8qXMseP25/view?usp=sharing	 Diversity in Indian Jewellery

Chapter No.	Unit No.	Topic Name	Page No.	Url	QR code (s)
2. Polish, Clean and finish the Jewellery Part - I	UNIT 2.3: Types of Jewellery	2.3.1: Types of Indian Jewellery	25	https://drive.google.com/file/d/1szE3LWEmzgSt1xGopymE3shRhDCwpLqf/view?usp=sharing	 Categories of Indian Jewellery
2. Polish, Clean and finish the Jewellery Part - I	UNIT 2.4: Introduction to Diamonds and Gemstones	2.4.1: Introduction to Diamonds	27	https://drive.google.com/file/d/1hu_XQdhI02jklckOyMfPuV2VweuUCfX/view?usp=sharing	 Common features & Diamond
2. Polish, Clean and finish the Jewellery Part - I	UNIT 2.5: Types of Settings	2.5.1: Types of Settings	31	https://drive.google.com/file/d/1_2XPTcEapET9ICY4n0IJ_BaRTmWX1c3q/view?usp=sharing	 Types of Setting
3. Polish, Clean and finish the Jewellery Part - II	UNIT 3.4: Controlling Gold Loss	3.4.1: Preventing Metal Loss	79	https://drive.google.com/file/d/1YWVqpq7nylnWaDFJpwTvuxNPzXnt5Eq/view?usp=sharing	 Magnetic Polisher
3. Polish, Clean and finish the Jewellery Part - II	UNIT 3.4: Controlling Gold Loss	3.4.1: Preventing Metal Loss	79	https://youtu.be/l1YbUgspMBQ	 Disc Finishing
3. Polish, Clean and finish the Jewellery Part - II	UNIT 3.4: Controlling Gold Loss	3.4.1: Preventing Metal Loss	79	https://youtu.be/hioAOWR2iZ8	 Electropolishing

Chapter No.	Unit No.	Topic Name	Page No.	Url	QR code (s)
3. Polish, Clean and finish the Jewellery Part - II	UNIT 3.8: Know Your Organization and Its Standards	3.8.1: Know Your Organization and Its Standards	89	https://youtu.be/orrfokjuzTs	 Improvement through KAIZEN

It is recommended that all the trainings include the appropriate Employability Skills Module.

Content for the same is available here:
<https://www.skillindiadigital.gov.in/content/list>





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