

**CURRICULUM FOR**  
**Gemstone Cutting & Polishing**  
**(Gemstone)**  
**6-Months**  
**Code:VF52S001**

## Gemstone Cutting and Polishing

Gemstone faceting is a marvelous amalgamation of engineering and art. Through a mechanical process of cutting facets on a piece of crystal wonderful gems are created. Gemstone Faceting Course is designed to provide a comprehensive introduction to gemstone cutting both precision and JemPeg. Basic introduction of native cutting called 'Angora' is also included in the course which will increase job opportunities for the students taking this course. Gemstone cutting course not only prepares trainees to cut and polish gemstones according to International Faceting Practice but also provides an opportunity to cut gemstones according to the prevailing local time old gemstone cutting tradition.

- Gemstone cutter at Jewelry shop
- Gemstone cutter at gemstone cutting factory locally and abroad
- Self employed in jewelry sector

Trainee entry level : Matric

Min. qualification of teacher: Bachelors degree with Certificate in Gemstone cutting and 3 years of experience

Medium of instruction : Urdu /English

Sequence of modules : Trainees must complete module 1 (Gemstone Identification) first.

## Overview about the program –Curriculum for Gemstone Cutting and polishing

Module Title and Aim	Learning Units	Theory <sup>1</sup> Days/hours	Workplace <sup>2</sup> Days/hours	Timeframe of modules
Module 1- Gemstone Identification	LU- 1. Introduction with Gemstone Identification , LU- 2. Main gemstones from Pakistan LU-3 Hardness and Specific gravity LU- 4.Crystal Structure of Gemstones LU- 5. Cleavage, Breaks and Feathers LU- 6. Color Zone ,Critical angle and Orientation LU- 7. Inclusions and Blemishes	36 hr		Complete first
Module 2 - Gemstone Preperation	LU-1. Trim Saw LU-2. Dual Grinders LU-3 Pre -forms by hand	2 hrs	14 hrs	Complete Module- 1 first
Module 3 - Gemstone Dopping	LU-1 Introduction LU- 2. Dopping with hot wax LU- 2 Cold Dopping	2 hrs	15 hrs	Complete Module- 2 first

<sup>1</sup> Learning hours in training provider premises

<sup>2</sup> Training workshop, laboratory and on-the-job workplace

Module Title and Aim	Learning Units	Theory <sup>3</sup> Days/hours	Workplace <sup>4</sup> Days/hours	Timeframe of modules
Module 4 - Angora Cutting / Native Cutting	LU-1. Prepare gemstone LU- 2. Faceting of crown facets with Angora LU- 3. Pre Polish crown facet LU-4. Polish Crown facets LU-5. Transfer LU -6. Faceting of Pavilion with Angora LU -7. Pre Polish pavilion facets LU-8. Polish Pavilion Facets and gridle . LU -9. Finished Stone	10 hrs	98 hrs	Independent
Module 5 - JemPeg faceting machine – Oval cut	LU-1. Prepare gemstone LU-2. Faceting of crown facets with Jempeg LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-4. Polish Crown facets 5. Transfer	10 hrs	56 hrs	Independent

<sup>3</sup> Learning hours in training provider premises

<sup>4</sup> Training workshop, laboratory and on-the-job workplace

	LU-6. Faceting of Pavilion with Jempeg LU-7. Pre Polish pavilion main facets LU-8.Pre Polish Pavilion facets all LU-8. Polish Pavilion Facets and gridle . LU-9. Finished Stone			
Module Title and Aim	Learning Units	Theory <sup>5</sup> Days/hours	Workplace <sup>6</sup> Days/hours	Timeframe of modules
Module 6 - JemPeg faceting machine – Standard round brilliant	LU-1. Prepare gemstone LU-2. Faceting of crown facets with Jempeg LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets 6. Transfer LU-7. Faceting of Pavilion with Jempeg LU-8. Pre Polish pavilion main facets LU-9.Pre Polish pavilion facets all LU-10. Polish Pavilion Facets and girdle LU-11. Finished Stone	10 hrs	56 hrs	Complete Module- 5 first

<sup>5</sup> Learning hours in training provider premises

<sup>6</sup> Training workshop, laboratory and on-the-job workplace

Module Title and Aim	Learning Units	Theory <sup>7</sup> Days/hours	Workplace <sup>8</sup> Days/hours	Timeframe of modules
Module 7 - JemPeg faceting machine – Step cut /Emerald cut	LU-1. Prepare gemstone LU-2. Faceting of crown facets with Jempeg LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion with Jempeg LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion Facets and gridle LU-11. Finished Stone	10 hrs	56 hrs	Complete Module- 5 first
Module 8 - JemPeg faceting machine – Faceted beads cut	LU-1. Prepare gemstone LU-2. Faceting of crown facets with Jempeg LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets	10 hrs	56 hrs	Complete Module- 5 first

<sup>7</sup> Learning hours in training provider premises

<sup>8</sup> Training workshop, laboratory and on-the-job workplace

	LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion with Jempeg LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion Facets and girdle . LU-11. Finished Stone			
Module Title and Aim	Learning Units	Theory <sup>9</sup> Days/hours	Workplace <sup>10</sup> Days/hours	Timeframe of modules
Module 9 - Gemstone faceting Machine ( Standard round brilliant )	LU-1. Prepare gemstone LU-2. Faceting of crown facets LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion with Jempeg LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion facets LU-11. Finished Stone	10 hrs	56 hrs	Independent

<sup>9</sup> Learning hours in training provider premises

<sup>10</sup> Training workshop, laboratory and on-the-job workplace

Module Title and Aim	Learning Units	Theory <sup>11</sup> Days/hours	Workplace <sup>12</sup> Days/hours	Timeframe of modules
Module 10 - Gemstone faceting Machine ( Standard round brilliant – Vertical Split )	LU-1. Prepare gemstone LU-2. Faceting of crown facets LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion facets and girdle . LU-11. Finished Stone	10 hrs	35 hrs	Complete Module- 9 first

<sup>11</sup> Learning hours in training provider premises

<sup>12</sup> Training workshop, laboratory and on-the-job workplace



Module Title and Aim	Learning Units	Theory <sup>13</sup> Days/hours	Workplace <sup>14</sup> Days/hours	Timeframe of modules
Module 11 : Gemstone faceting Machine ( Standard round brilliant – horizontal Split	LU-1. Prepare gemstone LU-2. Faceting of crown facets LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion facets and girdle . LU-11. Finished Stone	10 hrs	35 hrs	Complete Module- 9 first

Module Title and Aim	Learning Units	Theory <sup>15</sup> Days/hours	Workplace <sup>16</sup> Days/hours	Timeframe of modules
Module 12 : Gemstone faceting Machine ( Step cut / Emerald cut)	LU-1. Prepare gemstone LU-2. Faceting of crown facets			

<sup>13</sup> Learning hours in training provider premises

<sup>14</sup> Training workshop, laboratory and on-the-job workplace

<sup>15</sup> Learning hours in training provider premises

<sup>16</sup> Training workshop, laboratory and on-the-job workplace

	LU- 3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets 6. Transfer LU-7. Faceting of Pavilion LU-8. Pre Polish pavilion main facets LU-9.Pre Polish Pavilion facets all LU-10. Polish Pavilion facets and girdle . LU-11. Finished Stone	10 hrs	42 hrs	Complete Module- 9 first
Module Title and Aim	Learning Units	Theory <sup>17</sup> Days/hours	Workplace <sup>18</sup> Days/hours	Timeframe of modules
Module 13 : Gemstone faceting Machine Asscher cut )	LU-1. Prepare gemstone LU-2. Faceting of crown facets LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion	10 hrs	40 hrs	Complete Module- 9 first

<sup>17</sup> Learning hours in training provider premises

<sup>18</sup> Training workshop, laboratory and on-the-job workplace

	LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion facets LU-11. Finished Stone			
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Module Title and Aim	Learning Units	Theory <sup>19</sup> Days/hours	Workplace <sup>20</sup> Days/hours	Timeframe of modules
Module 14 : Gemstone faceting Machine ( Marquise Cut )	LU-1. Prepare gemstone LU-2. Faceting of crown facets LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets al LU-10. Polish Pavilion facets and girdle . LU-11. Finished Stone	10 hrs	40 hrs	Complete Module- 9 first

<sup>19</sup> Learning hours in training provider premises

<sup>20</sup> Training workshop, laboratory and on-the-job workplace

Module 15 - Gemstone faceting Machine ( Oval Cut )	LU-1. Prepare gemstone LU-2. Faceting of crown facets LU-3. Pre Polish crown facets LU-4. Pre Polish 2 crown facets LU-5. Polish Crown facets LU-6. Transfer LU-7. Faceting of Pavilion LU-8. Pre Polish pavilion main facets LU-9. Pre Polish Pavilion facets all LU-10. Polish Pavilion facets and girdle . 11. Finished Stone	10 hrs	41 hrs	Complete Module- 9 first
Total Hours		160	640	800

## Gemstone Cutting and polishing (Teaching and Learning Guide)

### Module 1 : Gemstone Identification

**Objective of the Module: To give the Basic information about gemstones**

**Duration: 36 hours Theory: 36 hours Practice**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU- 1. Introduction with Gemstone Identification ,	Able to explain gemstone identification and explain the concept	- Introduction about Gemstone , -types , - properties ,	2 hrs		Class
LU- 2. Main gemstones from Pakistan	Knows about all major gemstone from Pakistan , Sources and availability	Major Gemstone from Pakistan 1.Ruby 2.Emeralds 3.Peridot 4 Tourmaline 5Topaz	5 hrs	Study gemstone for class display	Class
LU-.3 Hardness and Specific gravity	Able to Use Moh's scale of hardness and Idea about specific gravity to identify gemstones	Introduction with Hardness scale Introduction with Specific gravity	5 hrs	Moh's Scale of Hardness pencil set  Specific gravity apparatus	Class

LU- 4.Crystal Structure of Gemstones	Knows about all 6 crystal systems and able to distinguish them accordingly	Knowledge of: Basic Information about Crystal structure and further information about Pakistan's common gemstones crystal structure	8 hrs		Class
LU- 5. Cleavage, Breaks and Feathers	Understand the difference between all of them and knows the way to handle them	Knowledge of: concept of Cleavage and breaks  Learn the ways to handle them while gemstone cutting	5 hrs		Class
LU- 6. Color Zone, Critical angle and Orientation	Fully understand the concept of color zone and able to use it for maximum color impact of gemstones	-Knowledge of Color zones in gemstone and its management -Concept of Critical angle of gemstones and its importance -Proper Orientation gemstone	6 hrs		Class
LU- 7. Inclusions and Blemishes	Able to recognize types of inclusions Able to control the weight loss of gem while removing Inclusions	-Knowledge of: Importance of Inclusions in gemstones Cutting.  -Inclusion Placement while cutting	5 hrs		Class

**Module 2 : Gemstone Preparation**

**Objective of the Module: To prepare rough gemstone for cutting**

**Duration: 16 hours Theory: 2 hours Practice 14 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU-1. Trim Saw	Able to use trim saw safely with straight cuts –both soft and hard stones - Make cubes	-How to use it effectively -Kind of blades used in Trim saw -Safety precautions of Trim saw -maintenance of Trim saw	2 hrs	Trim Saw Diamonds cuttings Blades -Fingers protectors -Safety goggles, mask	Lab
LU-2. Dual Grinders	Able to use grinders to with different kinds of grits to give requires shape to the stone	- How to use it effectively -Safety precautions -Diamond wheel and there uses -maintenance of Dual Grinder	14 hrs	Dual Grinders  120 grit wheel  220 Grit Wheel	Lab
LU-3 Pre - forms by hand	Able to make Pre-form with hands using different grits of wheels both with hard stone and soft stones	Convert cubes in to round shape Make pre-form for step cut Make pre-form for Oval		Marble( soft stone )  Quartz ( Hard Stones)	Lab

**Module 3 : Gemstone Dopping**

**Objective of the Module: To attach gemstone with dop stick with wax**

**Duration: 17 hours Theory: 2 hours Practice 15 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU -1 Introdcution	Able explain Dopping and understand its details	Introduction with the concept of Dopping , need , Precautions , safety measure	2 hrs		
LU- 2 Dopping with hot wax	Able to attach gemstone with dopstick using hot wax.  Able to align gemstone to be perfectly straight and at 90 degree ,	Heat Wax & attach with Dop stick  Heat stone according to its sensitivity with heat  At melting point of Wax Attach gemstone with wax which already attached with dop stick.  Align Gemstone to be at 90 degree	15 hrs	Spirit Lamp Dopping Wax Tweezers Dopstick Dopstick Holder Lighter or matchstick	Lab
LU- 3 Cold Dopping	Able to cold dop gemstones when it's required due their sensitivity to heat.	Attach gemstone (especially heat sensitive stones like Opal) with glue or Epoxy. Hot Dop is attached with Dopstick Grind the wax on the grinder to make its straight seat. Now Put super glue or Epoxy on it and press gemstone over it . Weight till it stone is attached with the dopstick		Super Glue Tweezers Dopstick Dopstick Holders Super Glue Epoxy Glue	Lab



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**Module 4 : Angora Cutting / Native Cutting**

**Objective of the Module: To cut gemstone in oval shape with Angora**

**Duration: 108 hours Theory: 10 hours Practice 98 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU-1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction -Pre-forming for Oval cut -Dopping with wooden stick -Attach wooden stick with Angora	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Wood stick	Lab
LU- 2. Faceting of crown facets with Angora	Able to make Main facets ,all equal depth around the gemstone ,	Make Main facets on the Crown of gemstone with 180 mash faceting Lap		180 Faceting Laps Angora Faceting table	Lab

LU- 3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets Then Star facets Then break facets		600 mash Faceting Laps	Lab
LU-4. Polish Crown facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Chrome Oxides Slurry made with water to Polish all crown facets -Safety measure for use of Oxides	98 hrs	Copper Laps Chrome Oxides	Lab
LU-5. Transfer	-Able to detach gemstone -Re dopp gemstone with wood stick -Align gemstone	Detach gemstone using heat from spirit lamp  Re dopp gemstone from the crown side so that Pavilion can be cut.		Spirit Lamp Tweezers	Lab
LU -6. Faceting of Pavilion with Angora	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap		180 Mash faceting Laps	Lab
LU -7. Pre Polish pavilion facets	Able to use 600 Mash faceting laps for Pre	600 Mash faceting Laps used to make main facets Then break facets		600 Mash Laps	Lab

	polishing all facet of Pavilion				
LU-8. Polish Pavilion Facets	Able to Polish all facets for Pavilion with perfect luster and perfect meets.	Use Copper Lap and Chrome Oxides Slurry made with water to Polish all pavilion facets -Polish girdle -Safety measure for the use Oxides		Copper Laps Chrome Oxides	Lab
LU -9. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone	-Detach gemstone from the dopstick using spirit Lamp - when cold, Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look -handling and packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 5 : JemPeg faceting machine – Oval cut**

**Objective of the Module: Oval cut gemstone by using Jempeg machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction with JemPeg Machine -Pre-forming for Oval cut for JemPeg -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp	Class/Lab
LU - 2. Faceting of crown facets with Jempeg	Able to make Main facets ,all equal depth around the gemstone	-Make Girdle of gemstone -Make Main facets on the Crown of gemstone with 180 mash faceting Lap		180 Faceting Laps Jempeg faceting machine	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then Star facets Then break facets		1000 mash faceting laps	Lab
LU -5. Polish Crown facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets	56 hrs	Copper Laps Diamond Powder Olive Oil	Lab

LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick -Align gemstone	Detach gemstone using heat from spirit lamp  Re dopp gemstone from the crown side so that Pavilion can be cut.		Spirit Lamp Tweezers	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets Then break facets		600 Mash Laps	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and break facets		1000 mash faceting laps	Lab

LU -10. Polish Pavilion Facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond powder and olive oil to Polish all Pavilion facets  - Polish girdle		Copper Laps Diamond powder	Lab
LU -11 . Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the sprit jar	-Detach gemstone from the dopstick using Lamp -when stone get cold , Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  -Handling and Packaging		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 6 : JemPeg faceting machine – Standard round brilliant**

**Objective of the Module: To cut SRB with of Jempeg**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction SRB cut -Pre-forming for Standard round brilliant cut for Jempeg -Dopping with Dopstick using hot wax	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Class/Lab
LU - 2. Faceting of crown facets with Jempeg	Able to make Main facets ,all equal depth around the gemstone	Make Main facets on the Crown of gemstone with 180 mash faceting Lap		180 Faceting Laps Jempeg faceting machine	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then Star facets Then break facets.		1000 mash faceting laps	Lab

LU -5. Polish Crown facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick	Detach gemstone using heat from spirit lamp  Re dopp gemstone from the crown side so that Pavilion can be cut.	56 hrs	Sprit Lamp Tweezers	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of pavilion	600 Mash faceting Laps used to make main facets Then break facets		600 Mash lap	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and break facets		1000 mash faceting laps	Lab



LU -10. Polish Pavilion Facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond powder and olive oil to Polish all crown facets -Polish girdle		Copper Laps Diamond powder	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Sprit dip in the sprit jar	-Detach gemstone from the dopstick using Lamp - Put Stone( when cold ) it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 7 : JemPeg faceting machine – Step cut**

**Objective of the Module: To makes Step cut using JemPeg machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction with step cut -Pre-forming for Step cut -rectangle shape -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp	Class/Lab
LU -2. Faceting of crown facets with Jempeg	Able to make Main facets ,all equal depth around the gemstone	Make Main facets and table facet of the Crown of gemstone with 180 mash faceting Lap		180 Faceting Laps Jempeg faceting machine	Lab
LU - 3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to pre polish main facets and Table facet.		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting laps is used for all facets of the crown of step cut and table facet.		1000 mash faceting laps	Lab
LU -5. Polish Crown facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets	56 hrs	Copper Laps Diamond Powder Olive Oil	Lab

LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick -Align gemstone	Detach gemstone using heat from spirit lamp  Re dopp gemstone from the crown side so that Pavilion can be cut.		Spirit Lamp Tweezers	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to pre polish main facets of Pavilion		600 Mash Laps	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish all three sets of facets of step cut pavilion		1000 mash faceting laps	Lab

LU -10. Polish Pavilion Facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond powder and olive oil to Polish all crown facets -Polish girdle		Copper Laps Diamond powder	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the sprit jar	-Detach gemstone from the dopstick using Lamp - when stone get ld ,Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 8 : JemPeg faceting machine – Faceted beads cut**

**Objective of the Module: To makes Faceted beads by using JemPeg machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU -1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction with faceted beads cut -Pre-forming for beads cut for JemPeg -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp	Class /Lab
LU - 2. Faceting of crown facets with Jempeg	Able to make Main facets ,all equal depth around the gemstone	Make Main facets and table facet of the Crown of gemstone with 180 mash faceting Lap		180 Faceting Laps Jempeg faceting machine	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to pre polish main facets and Table facet.		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting laps is used for all facets of one side of the faceted beads		1000 mash faceting laps	Lab
LU -5. Polish Crown facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all facets		Copper Laps Diamond Powder Olive Oil	Lab

LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick -Align gemstone	Detach gemstone using heat from spirit lamp  Re dopp gemstone from the crown side so that Pavilion can be cut.	56 hrs	Spirit Lamp Tweezers	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to pre polish main facets of Pavilion		600 Mash Laps	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish all other facets of faceted beads		1000 mash faceting laps	Lab

LU -10. Polish Pavilion Facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond powder and olive oil to Polish all Pavilion facets - Polish girdle		Copper Laps Diamond powder	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the sprit jar	-Detach gemstone from the dopstick using Lamp - When Stone gets cold , Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look -handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 9 : Gemstone faceting Machine ( Standard round brilliant )**

**Objective of the Module: Percision cut Srb using gemstone faceting machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction with Machine - safety measures -Pre-forming for Standard round brilliant cut -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Class /Lab
LU - 2. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone -able to understand design chart	-Make girdle and 90 degree of factor -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size gemstone - Critical angles according to design chart		180 Faceting Laps Gemstone faceting machine Faceting design chart	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab



LU -4. Pre Polish 2 crown facets	Able to use 1000 Mash faceting laps for further pre polishing on all crown facets	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then Star facets Then break facets.		1000 mash faceting laps	Lab
LU -5. Polish Crown facets	Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re dop gemstone from the crown side so that Pavilion can be cut. - Use Transfer Block for re dopping	56 hrs	Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion with faceting machine.	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet		180 Mash faceting Laps	Lab

LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and then break facets		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive Oil as lubricant to polish pavilion facets .  -Polish girdle of gemstone		Copper Laps Diamond Powder Olive oil	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the sprit jar	-Detach gemstone from the dopstick using spirit Lamp - Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  -handling and packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 10 : Gemstone faceting Machine ( Standard round brilliant – Vertical Split )**

**Objective of the Module: Percison cut Srb –vertical split using gemstone faceting machine**

**Duration: 45 hours Theory: 10 hours Practice 35 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	- Introduction with SRB – vertical split - advantage of cutting it -Pre-forming for Standard round brilliant cut -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Lab
LU -2. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone	- Make girdle and 90 degree of factor -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size of gemstone - according to critical angle of gemstone		180 Faceting Laps Gemstone faceting machine	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	-Able to use 1000 Mash faceting laps for further pre polishing -Able to split main facet vertically	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then Star facets Then break facets -Split main facet vertically		1000 mash faceting laps	Lab

LU -5. Polish Crown facets	-Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re dopping gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re dop gemstone from the crown side so that Pavilion can be cut. - Use Transfer Block for re dopping		Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet	35 hrs	180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab

LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and then break facets -Split main pavilion facet vertically		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive Oil as lubricant to polish all pavilion facets -Polish girdle		Copper Laps Diamond Powder Olive oil	Lab
LU -11 . Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the sprit jar	-Detach gemstone from the dopstick using Lamp -when stone gets cold , Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  - Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**11 : Gemstone faceting Machine ( Standard round brilliant – horizontal Split**

**Objective of the Module: Percison cut Srb –horizontal split using gemstone faceting machine**

**Duration: 45 hours Theory: 10 hours Practice 35 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	-Introduction with SRB –Horizontal split -Pre-forming for Standard round brilliant cut -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Class/Lab
LU - 2. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone	- make girdle at 90 degree of faceter -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size of gemstone		180 Faceting Laps Gemstone faceting machine	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab

LU -4. Pre Polish 2 crown facets	-Able to use 1000 Mash faceting laps for further pre polishing -Able to split main facet horizontally	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then Star facets Then break facets -Split main facet horizontally		1000 mash faceting laps	Lab
LU -5. Polish Crown facets	-Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re dop gemstone from the crown side so that Pavilion can be cut. - Use Transfer Block for re dopping	35 hrs	Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet		180 Mash faceting Laps	Lab

LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and then break facets -Split main pavilion facet horizontally		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive Oil as lubricant to polish all pavilion facets - Polish girdle		Copper Laps Diamond Powder Olive oil	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the spirit jar	-Detach gemstone from the dipstick using Lamp - when stone gets cold ,Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab



**Module 12 : Gemstone faceting Machine ( Step cut / Emerald cut )**

**Objective of the Module: To prepare rough gemstone for cutting**

**Duration: 52 hours Theory: 10 hours Practice 42 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	-Introduction with step cut - Concept of “Cheater“ for step cut -Pre-forming for Step cut -rectangle shape -Dopping with Step cut Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Class/Lab
LU -2. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone	-make girdle at 90 degree of faceter - -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size gemstone		180 Faceting Laps Gemstone faceting machine	Lab
LU - 3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	-Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting Laps is used to make pre polish more effective on main facets.		1000 mash faceting laps	Lab

LU -5. Polish Crown facets	-Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re dopping gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re dop gemstone from the crown side so that Pavilion can be cut. - Use Transfer Block for re dopping	42 hrs	Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab

LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and other two step facets		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive Oil as lubricant to Polish all Pavilion facets - Polish girdle		Copper Laps Diamond Powder Olive oil	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the spirit jar	-Detach gemstone from the dopstick using Lamp -When stone gets cold , Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 13 : Gemstone faceting Machine ( Asscher cut )**

**Objective of the Module: Precision Asscher cut using gemstone faceting machines.**

**Duration: 50 hours Theory: 10 hours Practice 40 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU -1. Prepare gemstone	Able to complete all prerequisites before actual cutting	-Introduction with asscher cut -Pre-forming for Asscher cut - Perfect square shape -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Class /Lab
LU -. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone	-Make girdle and 90 degree of factor -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size gemstone		180 Faceting Laps Gemstone faceting machine	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	-Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting Laps is used to make pre polish more effective on main facets.		1000 mash faceting laps	Lab

LU -5. Polish Crown facets	-Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re doppel gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re doppel gemstone from the crown side so that Pavilion can be cut. -Use Transfer unit	40 hrs	Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab

LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and then break facets		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive Oil as lubricant to polish all pavilion facets - Polish girdle facets		Copper Laps Diamond Powder Olive oil	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the spirit jar	-Detach gemstone from the dopstick using spirit Lamp - When stone gets cold ,Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 14 : Gemstone faceting Machine ( Marquise Cut )**

**Objective of the Module : Percision Marquise cut using gemstone faceting machine**

**Duration: 50 hours Theory: 10 hours Practice 40 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	-Introduction with Marquise -History -Pre-forming for Marquise cut -Dopping with Dopstick	10 hrs	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Class/Lab
LU -2. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone	-make girdle free hand without factor -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size gemstone		180 Faceting Laps Gemstone faceting machine	Lab
LU - 3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab

LU -4. Pre Polish 2 crown facets	-Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then types of Star facets Then four types break facets -		1000 mash faceting laps	Lab
LU -5. Polish Crown facets	-Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re dopp gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re dop gemstone from the crown side so that Pavilion can be cut. -Use Transfer unit	40 hrs	Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion with Jempeg	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet		180 Mash faceting Laps	Lab



LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab
LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	1000 mash faceting laps is used to pre polish main facets and then four types break facets		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive Oil as lubricant to polish all pavilion facets - Polish girdle		Copper Laps Diamond Powder Olive oil	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the spirit jar	-Detach gemstone from the dopstick using Lamp -When stone gets cold , Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

**Module 15: Gemstone faceting Machine (Oval Cut )**

**Objective of the Module: Precision Oval Cut using gemstone faceting machine**

**Duration: 51 hours Theory: 10 hours Practice 41 hours**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU - 1. Prepare gemstone	Able to complete all prerequisites before actual cutting	-Introduction with Oval cut -History Pre-forming for Oval cut -Dopping with Dopstick	10	Trim Saw Dual grinders Wax Spirit lamp Dopstick	Lab
LU - 2. Faceting of crown facets	Able to make Main facets ,all equal depth around the gemstone , according to critical angle of gemstone	-make girdle free hand without facetor -Make table facet and Main facets on the Crown of gemstone with 180 mash faceting Lap -Table should be 55% of the size gemstone		180 Faceting Laps Gemstone faceting machine Gemstone faceting design	Lab
LU -3. Pre Polish crown facets	Able to use 600 Mash faceting laps for Pre polishing	600 Mash faceting Laps used to make main facets and table		600 mash Faceting Laps	Lab
LU -4. Pre Polish 2 crown facets	-Able to use 1000 Mash faceting laps for further pre polishing	1000 mash faceting Laps is used to make pre polish more effective on main facets. Then two types Star facets Then four types of break facets		1000 mash faceting laps	Lab

LU -5. Polish Crown facets	-Able to Polish all facets for crown with perfect luster and perfect meets.	Use Copper Lap and Diamond Powder with Olive oil as lubricant to Polish all crown facets		Copper Laps Diamond Powder Olive Oil	Lab
LU -6. Transfer	-Able to detach gemstone -Re doppel gemstone with dopstick -Align gemstone -able to use transfer unit	-Detach gemstone using heat from spirit lamp -Re doppel gemstone from the crown side so that Pavilion can be cut. -Use Transfer unit	41 hrs	Spirit Lamp Tweezers Transfer Unit	Lab
LU -7. Faceting of Pavilion	Able to make Pavilion Main facets ,all equal depth around the gemstone ,	Make Main facets on the Pavilion of gemstone with 180 mash faceting Lap with perfect culet		180 Mash faceting Laps	Lab
LU -8. Pre Polish pavilion main facets	Able to use 600 Mash faceting laps for Pre polishing all facet of Pavilion	600 Mash faceting Laps used to make main facets		600 Mash Laps	Lab

LU -9.Pre Polish Pavilion facets all	Able to pre polish with 1000 mash faceting laps with perfect meets	-1000 mash faceting laps is used to pre polish main facets and then break facets		1000 mash faceting laps	Lab
LU -10. Polish Pavilion facets	Able to Polish all facets for pavilion with perfect luster and perfect meets.	-Use Copper Lap and Diamond Powder with Olive Oil as lubricant to polish all pavilion facets  -Polish girdle		Copper Laps Diamond Powder Olive oil	Lab
LU -11. Finished Stone	Able to remove finished gemstone from the dopstick Able to clean finished gemstone using Spirit dip in the spirit jar	-Detach gemstone from the dopstick using Lamp - When stone cold ,Put it In Spirit Jar to remove excessive wax and to make gemstone clean Use cotton cloth to make it dry and to give it shinny look  -Handling and Packing		Spirit Lamp Spirit Jar Cotton cloth	Lab

## Gemstone Cutting and polishing Assessment

### Module 1 : Gemstone Identification

**Objective of the Module:** To give the Basic information about gemstones

**Duration:** 36 hours **Theory:** 36 hours **Practice**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M1-LU1 Introduction with Gemstone Identification	2 hrs		Trainee will: Explain about the concept of gemstone Identification - History – Modern trends	Lectures Power Point Presentation Multiple Choice Question	
M1-LU2 Main gemstones from Pakistan	5 hrs		Trainee will: Explain about gemstones typical to Pakistan Cover all major gemstones from Ruby , emeralds Peridot , tourmaline and Topaz	Lectures Power Point Presentation Multiple Choice Question	
M1-LU3 Hardness and Specific gravity	5 hrs		Trainee will : Explain the Moh's scale of Hardness Explain Specific gravity How to use both for gemstone Identification	Lectures Power Point Presentation Multiple Choice Question	
M1-LU4 Crystal Structure of Gemstones	8 hrs		Trainee will: Explain the Crystal system - Identification of Crystal system Crystal system of major gemstones of Pakistan	Lectures Power Point Presentation Multiple Choice Question	

M1-LU5 Cleavage, Breaks and Feathers	5 hrs		Trainee will: Explain the difference between Cleavage , breaks and feathers of gemstones Knows about the ways to handle them while gemstone cutting	Lectures Power Point Presentation Multiple Choice Question	
M1-LU6 Color Zone , Critical angle and Orientation	6 hrs		Trainee will: Explain the concept of Color Zone in gemstones - full understand the importance of critical angle Way to Orientation of gemstone for maximum weight retention	Lectures Power Point Presentation Multiple Choice Question	
M1-LU7 Inclusions and Blemishes	6 hrs		Trainee will: Explain the difference between Inclusions and Blemishes Knows the ways to handle Inclusion while gemstone cutting.	Lectures Power Point Presentation Multiple Choice Question	

### Supportive notes

**Assessment context:** This module will be theory based and students will receive all lectures in the class.

**Critical aspects :** Crystal structure of gemstone will be very important element of this module

**Assessment condition:** Notes should be provided for future studies and trainers can use “Gemstones by Cally Hall “to prepare notes and slides in Urdu so that every student can fully understand it.

**Resources required for assessment:** Since this module will be theory based so no tool or machinery will be required here. Visits for students at Gems and Jewelry training and manufacturing centers.

**Module 2 : Gemstone Preparation**

**Objective of the Module:** To prepare rough gemstone for cutting

**Duration:** 16 hours **Theory:** 2 hours **Practice** 14 hours

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M2-LU1 Trim Saw	2 hrs		Trainee will: Demonstrate Trim saw Cutting Using Diamond cutting Blade Safety Precaution for Trim Saw	Practical Demonstration Multiple Choice Question Practice by Students	
M2-LU2 Dual Grinders		14 hrs	Trainee will: Demonstrate Dual Grinding Using of Carbide wheel and Diamond wheel Safety Precaution for Dual Grinders	Practical Demonstration Multiple Choice Question Practice by Students	
M2-LU3 Pre –form Making by hand			Trainee will : Make Pre-forms using trim saw and dual grinders Make Round , Oval and rectangle shapes from soft stones first than hard stones	Practical Demonstration Multiple Choice Question Practice by Students	

**Supportive notes**

**Assessment context:** This module will require gemstone cutting lab for introduction and practice with machines

**Critical aspects** : For some students it will be first time with power tools so safety precaution should be explained.

**Assessment condition:** Learner will have access to both machines for complete practice to develop perfection

**Resources required for assessment:** Trim saw and Dual grinders will be required here in Gemstone cutting lab, with finger protectors and safety for safety purpose. Safety goggles , finger protectors and mask

### Module 3 : Gemstone Dopping

Objective of the Module: To attach gemstone using dopstick with wax

Duration: 17 hours Theory: 2 hours Practice 15 hours

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M3 – LU1	2 hrs		Trainee will : Introduced with the concept of Dopping , History , why he need it	Class lecture , Notes	
M3-LU2 Dopping with hot wax		15 hrs	Trainee will: Attach gemstone with dopstick or Wood flawlessly using wax and spirit lamp Joint should be smooth and without any cracks Take all safety precaution against high temperature burn Using further heat to readjust gemstone to bring it perfect 90 degree angle	Practical Demonstration Multiple Choice Question Practice by Students	
M3-LU3 Cold Dopping			Trainee will: Attach gemstones with dopstick or wood using super glue or epoxy Able to align gemstone properly as re adjustment will be very difficult	Practical Demonstration Multiple Choice Question Practice by Students	



## Supportive notes

**Assessment context:** This module also requires gemstone cutting lab as more stress is given on practice.

**Critical aspects:** Hot wax has very high temperature and it can give high degree burn so trainee should be fully explained about safety precaution . Properly guided demonstration can minimize the risk.

**Assessment condition:** complete dopping kit will be provided to the student and it should be done on separate desk not close to the machines.

**Resources required for assessment:** Spirit lamp , Tweezers , Dopstick holders , dopping wax , Super glue ( Elfy ) for cold dopping

**Module 4 : Angora Cutting / Native Cutting**

**Objective of the Module: To cut gemstone in oval shape with Angora**

**Duration: 108 hours Theory: 10 hours Practice 98 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M4-LU1 Prepare gemstone	10 hrs		Trainee will: Use Trim saw , Dual grinders to make pre forms Dop gemstone with wooden stick for Angora	Practical Demonstration Multiple Choice Question Practice by Students	
M4-LU2 Faceting of crown facets with Angora			Trainee will: Use Angora and make Main facets of Crown Develop table facet	Practical Demonstration Multiple Choice Question Practice by Students	
M4-LU3 . Pre Polish crown facets			Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M4-LU4 Polish Crown facets		98 hrs	Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster. No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	

M4-LU5 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M4-LU6 Faceting of Pavilion with Angora			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp	Practical Demonstration Multiple Choice Question Practice by Students	
M4 -LU7 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M4 – LU8 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of sprit lamp ( too much heat will damage the stone ) Dip the stone(when cold ) in Spirit lamp to remove residual of wax – Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

## Supportive notes

**Assessment context:** Introduction and explanation about Angora will be in the class room but practical will be in gemstone cutting lab , This module can be taught in the end when learner has already completed JemPeg and Facetors modules . This way it will become easier for trainer to explain the concept and it will be easier for learner to adopt it.

**Critical aspects:** Handling of Angora and making of equal facet will be the key component of this module. Accurate pre forms will be very important in this type of gemstone cutting.

**Assessment condition:** Learner will have access to all tools related with Angora,

**Resources required for assessment :** Angora machines , faceting laps ( 180 , 600 mash ) , Copper lap , Chrome oxide and other common gemstone cutting tools .

**Module 5 : JemPeg faceting machine – Oval cut**

**Objective of the Module: Oval cut gemstone by using Jempeg machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology
M5-LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dopp gemstone	Practical Demonstration Multiple Choice Question Practice by Students
M5-LU2 Faceting of crown facets with Jempeg			Trainee will: Use Jempeg and make Main facets of Crown Develop table facet	Practical Demonstration Multiple Choice Question Practice by Students
M5-LU3 . Pre Polish crown facets	10 hrs	56 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students
M5-LU4 . Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	
M5-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students
M5-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students

M5-LU7 Faceting of Pavilion with Jempeg			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp	Practical Demonstration Multiple Choice Question Practice by Students
M5 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students
M5 – LU9 . Polish Pavilion Facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students
M5-LU10 Polish Pavilion Facets			Trainee will: Demonstrate Polish of pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students
M5 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone ) Dip the stone( when cold ) in Spirit lamp to remove residual of wax -Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students

## Supportive notes

**Assessment context:** Introduction and explanation about JemPeg machine will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Handling of JemPeg and making of equal facet will be the key component of this module. Accurate pre forms will be very important in this type of gemstone cutting.

**Assessment condition:** Learner will have access to all tools related with JemPeg machines and notes should be provided for future reference

**Resources required for assessment :** Jempeg machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**Module 6 : JemPeg faceting machine – Standard round brilliant**

**Objective of the Module: To cut SRB with of Jempeg**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology
M6-LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone	Practical Demonstration Multiple Choice Question Practice by Students
M6-LU2 Faceting of crown facets with Jempeg			Trainee will: Use JemPeg and make Main facets of Crown Develop table facet	Practical Demonstration Multiple Choice Question Practice by Students
M6-LU3 . Pre Polish crown facets			Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students
M6-LU4 . Pre Polish-2 crown facets	10 hrs	56 hrs	Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students
M6-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students
M6-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students



M6-LU7 Faceting of Pavilion with Jempeg			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp	Practical Demonstration Multiple Choice Question Practice by Students
M6 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students
M6 – LU9 . Pre Polish Pavilion Facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students
M6-LU10 Polish Pavilion Facets			Trainee will: Demonstrate Polish of pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students
M6 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone ) Dip the stone( when cold ) in Spirit lamp to remove residual of wax -Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students

**Module 7 : JemPeg faceting machine – Step cut**

**Objective of the Module: To makes Step cut using JemPeg machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology
M7-LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone	Practical Demonstration Multiple Choice Question Practice by Students
M7-LU2 Faceting of crown facets with Jempeg			Trainee will: Use Jempeg and make Main facets of Crown Develop table facet	Practical Demonstration Multiple Choice Question Practice by Students
M7-LU3 . Pre Polish crown facets			Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students
M7-LU4 . Pre Polish crown facets	10 hrs	56 hrs	Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students
M7-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students
M7-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students

M7-LU7 Faceting of Pavilion with Jempeg			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp	Practical Demonstration Multiple Choice Question Practice by Students
M7 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students
M7 – LU9 . Polish Pavilion Facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students
M7-LU10 Polish Pavilion Facets			Trainee will: Demonstrate Polish of pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students
M7 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone ) Dip the stone ( when cold ) in Spirit lamp to remove residual of wax -Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students

**Module 8 : JemPeg faceting machine – Faceted beads cut**

**Objective of the Module: To makes Faceted beads by using JemPeg machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M8-LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M8-LU2 Faceting of crown facets with Jempeg			Trainee will: Use Jempeg and make Main facets of Crown	Practical Demonstration Multiple Choice Question Practice by Students	
M8-LU3 . Pre Polish crown facets	10 hrs	56 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M8-LU4 . Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet		
M8-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster	Practical Demonstration Multiple Choice Question	

			No residual of unpolished surface	Practice by Students	
M8-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M8-LU7 Faceting of Pavilion with Jempeg			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp	Practical Demonstration Multiple Choice Question Practice by Students	
M8 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M8 – LU9 . Pre Polish Pavilion Facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M8-LU10 Polish Pavilion Facets			Trainee will: Demonstrate Polish of pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M8 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of sprit lamp ( too much heat will damage the stone Dip the stone( when cold ) in Spirit lamp to remove residual of wax -Handling & Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction with faceted beads will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Handling of JemPeg and making of equal facet will be the key component of this module. Accurate pre forms for faceted beads will be very important in this type of gemstone cutting.

**Assessment condition:** Learner will have access to all tools related with JemPeg machines and notes should be provided for future reference

**Resources required for assessment :** JemPeg machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**Module 9 : Gemstone faceting Machine ( Standard round brilliant )**

**Objective of the Module: Percison cut Srb using gemstone faceting machine**

**Duration: 66 hours Theory: 10 hours Practice 56 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M9LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M9-LU2 Faceting of crown facets			Trainee will: Use faceter and make Main facets of Crown Develop table facet And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M9-LU3 . Pre Polish crown facets	10 hrs	56 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M9-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	

M9-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M9-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M9-LU7 Faceting of Pavilion with			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M9 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M9 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	



M9 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M9 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone ) Dip the stone( when cold ) in Spirit lamp to remove residual of wax Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about Gemstone Faceting machine and standard round brilliant cut will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Handling of Faceting machine and proper use of Facetor will be very important as here learner will introduced with precision gemstone cutting which require perfection and precision.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**Module 10 : Gemstone faceting Machine ( Standard round brilliant – Vertical Split )**

**Objective of the Module: Percison cut Srb –vertical split using gemstone faceting machine**

**Duration: 45 hours Theory: 10 hours Practice 35 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M10-LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M10-LU2 Faceting of crown facets			Trainee will: Use faceter and make Main facets of Crown Develop table facet - according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M10-LU3 . Pre Polish crown facets	10 hrs	35 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M10-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	

M10-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M10-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M10-LU7 Faceting of Pavilion			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M10 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M10 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M10 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle . Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M10 – LU11  Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone Dip the stone( when cold ) in Spirit lamp to remove residual of wax -Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about Gemstone Faceting SRB vertical will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Handling of Faceting machine and proper use of Facetor will be very important as here learner will introduced with precision gemstone cutting which require perfection and precision.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**11 : Gemstone faceting Machine ( Standard round brilliant – horizontal Split**  
**Objective of the Module: Precision cut Srb –horizontal split using gemstone faceting machine**  
**Duration: 45 hours Theory: 10 hours Practice 35 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M11-LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M11-LU2 Faceting of crown facets			Trainee will: Use Facetor and make Main facets of Crown Develop table facet -According to the critical angle of gemstones	Practical Demonstration Multiple Choice Question Practice by Students	
M11-LU3 . Pre Polish crown facets	10 hrs	35 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M11-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet, star facets and break facets.	Practical Demonstration Multiple Choice Question Practice by Students	

M11-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M11-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M11-LU7 Faceting of Pavilion			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M11 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M11 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M11 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M11– LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone Dip the stone( when cold) in Spirit lamp to remove residual of wax -Handling and packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about SRB horizontal split will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Handling of Faceting machine and proper use of Facetor will be very important as here learner will introduced with precision gemstone cutting which require perfection and precision.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**Module 12 : Gemstone faceting Machine ( Step cut / Emerald cut )**

**Objective of the Module: Precision Stepcut cut using gemstone faceting machine**

**Duration: 52 hours Theory: 10 hours Practice 42 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M12LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M12-LU2 Faceting of crown facets			Trainee will: Use Facetor and make Main facets of Crown Develop table facet	Practical Demonstration Multiple Choice Question Practice by Students	
M2-LU3 . Pre Polish crown facets	10 hrs	42 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M12-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	



M12-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M12-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M12-LU7 Faceting of Pavilion with			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M12 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M12 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M12 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M12– LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone ) Dip the stone( when cold ) in Spirit lamp to remove residual of wax -handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about Step cut or emerald cut will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Use of “Cheater “in faceter will be very important for Step cut and learner should develop mastery over it.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**Module 13 : Gemstone faceting Machine ( Asscher cut )**

**Objective of the Module: Precision Asscher cut using gemstone faceting machines.**

**Duration: 50 hours Theory: 10 hours Practice 40 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M13LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop Gemstones with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M13-LU2 Faceting of crown facets			Trainee will: Use Faceter and make Main facets of Crown Develop table facet	Practical Demonstration Multiple Choice Question Practice by Students	
M13-LU3 . Pre Polish crown facets	10 hrs	40 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M13-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	

M13-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M13-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M13-LU7 Faceting of Pavilion			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M13 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M13 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M13 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M13– LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of sprit lamp ( too much heat will damage the stone Dip the stone ( when cold ) in Spirit lamp when its cold -remove residual of wax -Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about asscher cut (square step cut) will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** Use of “Cheater “in faceter will be very important for Step cut and learner should develop mastery over it.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

**Module 14 : Gemstone faceting Machine ( Marquise Cut )**

**Objective of the Module: Precision Marquise cut using gemstone faeter machines**

**Duration: 50 hours Theory: 10 hours Practice 40 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M14LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M14-LU2 Faceting of crown facets			Trainee will: Use Facetor and make Main facets of Crown Develop table facet According to the critical angel of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M14-LU3 . Pre Polish crown facets	10 hrs	40 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M14-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	

M14-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M14-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M9-LU7 Faceting of Pavilion			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M14 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M14 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M14 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M14 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone Dip the stone ( when cold ) in Spirit lamp to remove residual of wax -Handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about Marquise cut will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** this will be first free hand design over precision faceting machine; learner should be properly guided here so that he easily handles these advance concepts.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .



**Module 15: Gemstone faceting Machine (Oval Cut )**

**Objective of the Module: Precision Oval cut using gemstone faceting machines**

**Duration: 51 hours Theory: 10 hours Practice 41 hours**

Learning Units	Theory Days/hours	Workplace Days/hours	Recommended formative assessment	Recommended Methodology	Scheduled Dates
M15 LU1 Prepare gemstone			Trainee will: Use Trim saw , Dual grinders to perform Dop gemstone with dopstick	Practical Demonstration Multiple Choice Question Practice by Students	
M15-LU2 Faceting of crown facets			Trainee will: Use Faceter and make Main facets of Crow Develop table facet -According to critical angle of gemstones	Practical Demonstration Multiple Choice Question Practice by Students	
M15-LU3 . Pre Polish crown facets	10 hrs	41 hrs	Trainee will : Use 600 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	
M15-LU4 Pre Polish crown facets			Trainee will : Use 1000 Mash Lap for pre polish Both table and main facet	Practical Demonstration Multiple Choice Question Practice by Students	

M15-LU5 Polish Crown facets			Trainee will: Demonstrate Polish of crown facets Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M15-LU6 Transfer			Trainee will: Use Transfer Block for re dopping gemstone for pavilion faceting Extra care should be taken for perfect Alignment otherwise stone will be off center.	Practical Demonstration Multiple Choice Question Practice by Students	
M15-LU7 Faceting of Pavilion			Trainee will: Again use 180 mash faceting for pavilion main facets All facets should be neat and sharp And according to critical angle of gemstone	Practical Demonstration Multiple Choice Question Practice by Students	
M15 –LU8 Pre Polish pavilion facets			Trainee will: Use 600 Mash faceting laps	Practical Demonstration Multiple Choice Question Practice by Students	
M15 – LU9 . Pre Polish pavilion facets			Trainee will: Use 1000 Mash faceting laps for final pre polish. Very important step for proper polish	Practical Demonstration Multiple Choice Question Practice by Students	

M15 – LU10 . Polish Pavilion Facets			Trainee will: Demonstrate Polish of Pavilion facets and girdle Demonstrate clean polish with good luster No residual of unpolished surface	Practical Demonstration Multiple Choice Question Practice by Students	
M15 – LU11 Finished Stone			Trainee will: Remove finished gemstone from dopstick using mild heat of spirit lamp ( too much heat will damage the stone Dip the stone( when cold ) in Spirit lamp to remove residual of wax -handling and Packing	Practical Demonstration Multiple Choice Question Practice by Students	

### Supportive notes

**Assessment context:** Introduction and explanation about Oval Cut will be in the class room but practical will be in gemstone cutting lab,

**Critical aspects:** this will be second free hand design over precision faceting machine, learner should be properly guided here so that he easily handles these bit advance concept.

**Assessment condition:** Learner will have access to all tools related with Gemstone faceting machines and notes should be provided for future reference, Gemstone design chart should be provided in the class.

**Resources required for assessment :** Gemstone faceting machines , faceting laps ( 180 , 600,1000 mash ) , Copper lap , Diamond powder , Olive oil and other common gemstone cutting tools .

List of Tools, Machinery & Equipment

Name of Trade	Gemstone Cutting and polishing
Duration	6 months

Sr. No.	Name of Item/ Equipment / Tools	Qty.
1	Angora ( with all accessories )	10
2	Jempeg stone cutting machine - Thailand or India (all accessories )	10
3	Imahasi gemstone faceting machine - Japan or Sri Lanka (all accessories)	10
4	Spirit lamp	10
5	Diamond Wheels for grinders	5 set
6	Copper Laps – Polishing	10
7	Tin Lap – Polishing	10
8	Tweezers	10
9	Doppstick holders	10
10	Dual grinders	2
11	Trim Saw	2
12	Diamond cutting blades for trim saw	50
13	First aid Box	1
14	Transfer block	1
15	Sample stones	
16	Hardness pencil set	1
17	Specific gravity apparatus	1

Notes : This list is for the class of 10 students.

### List of Consumable Supplies

Name of Trade	Gemstone Faceting
Duration	6 months

Sr. No.	Name of Consumable Supplies
1.	Faceting Laps 180 mash
2.	Faceting Laps 600 Mash
3.	Faceting Laps 1000 mash
4.	Diamond Powder - 2 mash
5.	Chrome Oxide powder
6	Spirit
7	Olive Oil
8	Dopping Wax

Prepared by :

Azhar Ali Malik

Technical Instructor – Lapidary  
Gems and Jewelry Training and Manufacturing Center – Lahore  
Pakistan Gems and Jewelry Development Company.

## **SCHEME OF STUDIES**

### **Gemstone Cutting and Polishing**

<b>Sr #</b>	<b>Modules</b>	<b>Theory Hours</b>	<b>Practical Hours</b>	<b>Total Hours</b>
1	Gems Identification	36		36
2	Gemstone Preparation	2	14	16
3	Gemstone Dopping	2	15	17
4	Angora Cutting/ Native Cutting	10	98	108
5	JemPeg -Oval Cut	10	56	66
6	JemPeg Standard Round Brilliant	10	56	66
7	JemPeg - Step Cut	10	56	66
8	JemPeg-Faceted Beads Cut	10	56	66
9	Faceting Machine – Standard Round Brilliant	10	56	66

10	Faceting Machine – Standard Round Brilliant Vertical Split	10	35	45
11	Faceting Machine – Standard Round Brilliant Horizontal Split	10	35	45
12	Faceting Machine – Step Cut/ Emerald Cut	10	42	52
13	Faceting Machine- Asscher Cut	10	40	50
14	Faceting Machine Marquise Cut	10	40	50
15	Faceting Machine Oval Cut	10	41	51
<b>TOTAL HOURS</b>		<b>160</b>	<b>640</b>	<b>800</b>