

**Syllabus for Glass and Ceramics Decorative Master Craftsman**

<b>Course Name</b>	<b>GLASS AND CERAMICS DECORATIVE MASTER CRAFTSMAN, V2</b>
<b>Course Code</b>	<b>STC - HAC /2021/1504, V2</b>
<b>Level</b>	<b>3</b>
<b>Occupation</b>	Glass and Ceramics Decorative Master Craftsman
<b>Job Description</b>	The trainee is able to perform the sequence of operations and procedures based on the model/design provided to him sketches the outline and colours the same to have colourful and attractive designs on the ceramic and glass products
<b>Course Duration</b>	<b>Total Duration 390 Hrs (T-90, P-180, OJT-60 and ES-60)</b>
<b>Trainees' Entry Qualification</b>	Grade 10 OR Grade 8 with two year of (NTC/ NAC) after 8 <sup>th</sup> OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
<b>Trainers Qualification</b>	<ol style="list-style-type: none"> <li>1. ITI in relevant trade with 5 year experience</li> <li>2. Diploma in Decorative Design and Technology with 5 year of experience</li> <li>3. 12<sup>th</sup> Pass with Minimum 5 year experience</li> </ol>

**Structure of Course:**

<b>Module No.</b>	<b>Module name</b>	<b>Outcome</b>	<b>Theory (Hrs)</b>	<b>Practical (Hrs)</b>	<b>Total (Hrs) [Multiple of 30]</b>
1	Workplace Safety	Apply Safe Working Practices	10	20	30
2	Types of material and their productivity standards	Examine the type of material and material productivity standards	10	20	30
3	Tools and equipment	Collect tools and equipment as per the SOPs	10	20	30
4	Prepare the colour samples and oxides	Prepare the colour samples and oxides while mixing them in a prescribed quantities	10	20	30
5	The sketching and painting process on decorative artefacts	Demonstrate the sketching and painting process on decorative artefacts	10	20	30

6	Colour quality and their productivity standards	Check colour quality and colour productivity standards	10	20	30
7	Product packaging	Maintain product packaging SOPs	10	20	30
8	E-commerce activities	Practice of E-commerce activities	10	20	30
9	Waste management	Carry adequate waste management	10	20	30
10.	<b>OJT</b>			60	60
11.	<b>Employability Skill</b>		--	--	60
<b>TOTAL:</b>			<b>90</b>	<b>240</b>	<b>390</b>

**Employability Skill: 60Hrs (Provided by NCVET)**

**OJT: 60hours (in multiple of 30)**

### **SYLLABUS:**

**Module No. 1: Workplace Safety**

**Outcome:** Apply Safe Working Practices

#### **Theory Content:**

1. Describe the health and safety related instructions applicable to the workplace
2. Explain how to monitor the workplace and work processes for potential risks and threats
3. Discuss workplace hygiene, sanitation and job specific safety procedures
4. Identify basic health concerns like fever, cold & cough, etc. for self, colleague and other family members
5. Explain how to speak and behave in a calm way while dealing with accidents and emergencies

#### **Practical Content:**

1. Demonstrate how to clean and maintain the cleanliness of the work area using approved sanitizers to keep it free from dust, waste, and spillage
2. Carry adequate safety measures while handling materials, chemicals, and tools
3. Apply standard operating procedures to clean the tools and equipment used with recommended sanitizers following specifications and organizational standards
4. Participate actively in employee work groups on 5s and encourage team members for active participation
5. Monitor the workplace and work processes for potential risks and threats
6. Discuss the importance of using gloves as per the materials used for working printing operations to avoid blisters; scratches and cuts

**Module No. 2: Type of material and their productivity standards**

**Outcome:** Examine the type of material and material productivity standards

#### **Theory Content:**

1. Explain the importance of discussing the Job order with supervisor

2. Discuss the various properties of the materials used in making the decorative artefacts
3. Describe the various types of pattern, bases structure and techniques required to make the decorative artefacts

**Practical Content:**

1. Apply the standard operating procedures in order to analyze the job specifications based on the parameters based on size, shape, pattern and art work design
2. Select the design pattern, structure and SOPs required to make the design and sketch on the glass and ceramic objects
3. Collect the tools and equipment and raw materials from the designated location in prescribed quantities as per the Job Sheet
4. Perform the process of examine the physical and chemical properties of the colour and oxides formations

**Module No. 3: Tools and equipment**

**Outcome:** Collect tools and equipment as per the SOPs

**Theory Content:**

1. Ensure appropriate handling and utilizing of materials, tools, and equipment along with preventive and precautionary measures
2. Identify the standard organizational procedures required for storing the tools and equipment safely after their use
3. Discuss the importance of marking/coding/ labelling/ numbering while maintaining reports and records

**Practical Content:**

1. List the functions of different hand tools like hammer, spanner, files, chisels, needle, etc.
2. Check if the equipment/machine is functioning normally before commencing work and rectify wherever required
3. Demonstrate usage of tools and equipment for further processing
4. Perform standard operating procedures to be followed while collecting raw materials and ingredients in prescribed quantities from the designated storage location
5. Demonstrate the organizational SOPs required to place the raw materials and ingredients at workplace for further processing
6. Apply the standard procedures to be followed while delivering the remaining and unused material at the designated storage location

**Module No. 4: Prepare the colour samples and oxides**

**Outcome:** Prepare the colour samples and oxides while mixing them in a prescribed quantities

**Theory Content:**

1. Select the suitable PPE based on the prescribed Job Sheet at the workplace
2. List the common defects and faults that can be rectified during the creation of artefacts
3. Describe the importance of using PPE at the time of handling tools and equipment at workplace
4. Discuss the importance of visual inspection on the prepared solution based on the physical and chemical properties

**Practical Content:**

1. Apply the SOPs required to make base colour to design as per the design specifications and nature of the surface

2. Place the raw materials and ingredients in an appropriate quantities required to make glass articles
3. Demonstrate the process of preparing the colour formulation required for ceramic artefacts
4. Follow the SOPs required to mix the raw materials and ingredients in a container as per the prescribed quantities for manual mixing techniques
5. Place the appropriate amount of varnish on the ceramic clay art as per the SOPs
6. Demonstrate the standard operating procedures to be followed while removing or unloading the colour formulation from the container
7. Perform visual inspection required to examine the prepared solution and surface finishing as per SOPs
8. Prepare a sample format /template to collect information during inspection based on colour viscosity, oxide granules, nature of hue and colour saturation range
9. Ensure that work area and tools are cleaned and inspected according to workplace procedures

**Module No. 5:** The sketching and painting process on decorative artefacts

**Outcome:** Demonstrate the sketching and painting process on decorative artefacts

**Theory Content:**

1. Explain the importance of working in a ventilated and lit place to avoid potential risks and threats
2. explain the standard organizational parameters that are followed to examine the productivity standards
3. Prepare the list of processes as per the SOP required for colouring on the article as per design requirement and nature of material
4. Determine the surface and design defects based on unevenness, chipped glass, holes on surface, rough texture, etc. that need to be examine while making the artefacts

**Practical Content:**

1. Demonstrate the process of preparing the design on the surface of the article based on the selection of the material
2. List the procedural parameters as per the SOPs required for colouring the article as per the design specifications
3. Determine the number coats required on the surface of the object based on primer coats, intermediate coats and final coats
4. Apply SOPs to be followed while using OHP sheets in order to achieve complete traceability of the design on the surface
5. Demonstrate the sample testing on the raw pieces to examine the colour formulation and its properties
6. Prepare the clay solution while mixing the Ceramic powder and araldite required for further processing
7. Perform SOPs required to prepare the sculpture on the surface of the artefact as per the approved job sheet
8. Demonstrate the process of tracing the final structure on the surface while using the prescribed tools and equipment
9. Allow the final artefact to dry in a room temperature for at least 2 to 3 hours for ensuring the durability and sustainability of the object
10. Apply the final coat of varnish on the surface of the object to achieve smoothness and shininess

**Module No. 6:** Colour quality and their productivity standards

**Outcome:** Check colour quality and colour productivity standards

**Theory Content:**

1. Discuss the parameters that indicate deviation in the prepared colour solution based on their physical and chemical properties
2. Explain the standard organizational parameters that are followed to examine the colour productivity standards

**Practical Content:**

1. Demonstrate the SOPs that are required to check the prepared solution during the process based on its colour saturation properties
2. Perform the visual inspection on the colour formation and sketch outline as per the design specifications
3. Determine the pastel colours formation while applying on the ceramic artefacts
4. Examine the viscosity and adhesiveness properties of the decorative article on the surface of the object such as glass and ceramic
5. Prepare the sample template that indicate all the standard results achieved during this operation
6. Review the periodic schedules based on that production rate can be evaluated after the regular interval of time as per SOP.

**Module No. 7: Product packaging**

**Outcome:** Maintain product packaging SOPs

**Theory Content:**

1. Identify the parameters of wrapping and labelling the packages as per SOPs
2. Discuss the importance of marking/coding/ labelling/ numbering while maintaining reports and records of packaging

**Practical Content:**

1. Demonstrate the process of mentioning the proper dimensions and type of materials as per export SOPs
2. Apply the SOPs required to match the packaging material with the invoice to avoid duplicacy
3. Perform the packaging SOPs while packing the delegate items such as glass and other sensitive artefacts
4. Demonstrate the process of placing the prescribed bar codes on the items as per the periodic schedule of packaging

**Module No. 8: E-commerce activities**

**Outcome:** Practice of E-commerce activities

**Theory Content:**

1. Explain the importance of analyzing the different cues from the market
2. Explain the importance of following standard operating procedures to make the product more productive, reliable and cost effective
3. List down the activities related to advertising and marketing for product promotion

**Practical Content:**

6. Apply the standard organizational procedures to ensure the products are made based on the existing market demand and trends
7. Ensure proper placing and labeling required for the IEC and HSN codes on the products
8. Carry out the practices related to DIY activities

### Module No. 9: Waste management

**Outcome:** Carry adequate waste management

#### **Theory Content:**

1. Describe the importance of disposing waste in the designated area at workplace
2. List the important preventive measures in order to preserve the resources at workplace
3. Discuss the safety measures to be followed while handling and moving waste and debris

#### **Practical Content:**

1. Demonstrate the SOPs while disposing the used PPEs and other aids at designated locations
2. Perform the SOPs to segregate the waste and debris in selected colour bins
3. Apply the SOPs while segregating the recycled and non-recycled waste and debris
4. Demonstrate the standard sanitization protocols with alcohol based disinfectants at the designated location where waste are disposed at regular interval of time

### **Learning Outcome – Assessment Criteria**

Module No.	Outcome	Assessment Criteria
1	Apply Safe Working Practices	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Outline the health, safety and security policies at workplace to avoid workplace for potential risks and threats</li> <li>2. Sanitize hands at regular intervals using hand wash &amp; alcohol-based sanitizers</li> <li>3. Ensure that personal protective equipment is available at the workplace at all time</li> <li>4. Practice the appropriate measures to make yourself in a calm way while dealing with accidents, emergencies and in illness, fires or any other natural calamity</li> <li>5. interpret the SOPs related to workplace security and emergencies protocols</li> <li>6. Undergo preventive health check-ups at regular intervals as per the SOP</li> </ol>
2	Examine the type of material and material productivity standards	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Receive the job order and instructions from supervisor as per the SOP</li> <li>2. Explain the different types of materials and their properties used for decorative artefacts</li> <li>3. Identify the type of canvas for glass painting based on structure, pattern and technique</li> </ol>

Module No.	Outcome	Assessment Criteria
		<ol style="list-style-type: none"> <li>4. Prepare the job sheet based on the weight, size and design pattern of the prescribed material</li> <li>5. List the parameters required for analyzing appropriate mixing proportion based on color viscosity, oxides granules, nature of hue, and color saturation range</li> <li>6. select the SOPs for manual or mechanical method based on prescribed job sheet</li> </ol>
3	Collect tools and equipment as per the SOPs	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Collect the artefact as per the prescribed design pattern and specifications based on the type of material</li> <li>2. Differentiate between various types of oxides that are required to generate requisite color as per end product</li> <li>3. Arrange raw materials in appropriate quantities as per the standard procedures based on color mixing formulation sheet</li> <li>4. Place the raw materials prior to the mixing stage by utilizing appropriate tools</li> <li>5. deliver the remaining raw material and ingredients at designated location as per the SOP with proper labelling that ensures traceability and identification</li> </ol>
4	Prepare the colour samples and oxides while mixing them in a prescribed quantities	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Select the appropriate PPE for performing the operations</li> <li>2. Use approved procedures to inspect articles visually for any possible defects as per required standard parameters prior to work</li> <li>3. Prepare the base colour to design on the surface of the article</li> <li>4. Collect glass colour and glass liners with water and oxides in an appropriate quantity for glass articles</li> <li>5. Prepare the colour formulation for ceramic artefacts while mixing acrylic paints, araldite and chalk powder</li> <li>6. Mix the raw materials and ingredients in the container of prescribed volume and size for manual mixing technique</li> <li>7. Use appropriate amount of varnish for clay art for a magnifying look</li> <li>8. Examine the prepared colour composition based on color viscosity, oxides granules, nature of hue, and color saturation range</li> <li>9. Clean tools and equipment after their use to prevent colour spots, stains and rust</li> </ol>

Module No.	Outcome	Assessment Criteria
5	Demonstrate the sketching and painting process on decorative artefacts	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Ensure perform painting in a ventilated and lit place</li> <li>2. Examine the surface defects based on Unevenness, chipped glass, holes on surface, rough texture, etc.</li> <li>3. Prepare the design on the surface of the article with base colour</li> <li>4. List the step by step colouring process on the article as per design requirement</li> <li>5. Calculate the number coats required on the surface based on primer coats, intermediate coats and final coats</li> <li>6. Use OHP sheet to achieve complete traceability of the design on the surface by glass liner</li> <li>7. Perform the sample testing of colours on the raw piece to check the colour formulation and its properties</li> <li>8. Collect the clay solution of Ceramic powder and Araldite</li> <li>9. Prepare the sculpture on the surface of the artefact</li> <li>10. Use appropriate hand tools and equipment for tracing the final structure on the surface</li> <li>11. Apply the SOPs required to make the artefact dry in room temperature for at least 2 to 3 hours</li> <li>12. Place the varnish on the surface of the artefacts for smooth finishing and shininess</li> </ol>
6	Check colour quality and colour productivity standards	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Compare the colour as per the colour quality standards as per design pattern and specifications</li> <li>2. Maintain records of inspection results and tests as per prescribed job sheet</li> <li>3. Review the periodical targets set by the supervisor</li> </ol>
7	Maintain product packaging SOPs	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Carefully wrap and label the packages</li> <li>2. Ensure mentioning of proper dimensions and type of materials as per export SOPs</li> <li>3. Discuss the importance of marking/coding/ labelling/ numbering while maintaining reports and records</li> <li>4. Match the packaging material with the invoice to avoid duplicacy</li> <li>5. Interpret about HSN and other export related codes</li> </ol>
8	Practice of E-commerce activities	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Maintain the documents for placing product</li> </ol>



Module No.	Outcome	Assessment Criteria
		Online 2. Follow the practices related to DIY activities 3. Explain the importance of placing and labelling the IEC and HSN codes on the products 4. List down the activities related to advertising and marketing for product promotion
9	Carry adequate waste management	<b>After completion of this module students will be able to:</b> 1. Employ standard procedures of waste disposal and waste storage in the proper containers as per SOP 2. Place the used PPEs in a designated bag, sealed and labelled as contagious waste 3. Segregate the recycled and non-recycled wastes as per SOP
10	OJT	
11	Employability Skill	

List of Tools, Equipment & materials needed for 30 Trainees (Practical)

<b>List of Tools &amp; Equipment</b>			
<b>Glass and Ceramics Decorative Master Craftsman CLASS - VIII (for Batch of 30 Candidates)</b>			
S No.	Name of the Tools and Equipment	Specification	Quantity
<b>A. THEORY / CLASS ROOM</b>			
1	Instructor's table with glass top	6 feet x 4 feet	1Nos.
2	Revolving Chair for Classroom		1Nos.
3	Instructor's revolving with arm chair		2Nos.
4	Visitor's chair		2Nos.
5.	Class room chairs (armless)		30 Nos.
6.	Class room table single / Dual desk		30 /15 Nos.
7.	Almirah steel (major)	6" / higher	02 Nos.
8.	Steel Cupboard	180 x 90 x 45 cm	02 Nos.
9.	Steel Cupboard	120 x 60 x 45 cm	02 Nos.
10.	Book Shelf with lock		02 Nos.
11	Magnetic White Board	6' x 4'	2Nos.
12	Working table size	1250x950	2nos
13	Students Lockers	with 8 compartments	4Nos.
14.	Wooden Chest of Drawers		5Nos.
15	First Aid Box		01 No.
16	Fire Extinguisher		01 No.
17	Wall Clock		01 No.

<b>B. TRAINEES TOOL KIT</b>			
18	Rule Steel	300 mm both in inch and mm	31 Nos.
19	Rule Wooden 4 fold	600 mm	31 Nos.
20	OHP Sheet	A/4, 100 Mic	10 Nos.
21	Drawing Board	23 inch x 32 inch	5 Nos.
22	Glass Colors	ASTM's glass and ceramic	5 Nos.
23	Glass Liner	2 x 6.2 x 92.1 1 N6101372	5 Nos.
24	Waste Cotton Cloth	10 Meter	10 Nos.
25	Colour Powders	4 Kg	5 Nos.
26	Weigh Machine	Weighing Capacity: 30kg,	1 Nos.
27	Scrub Brushes	5 - 10 inch	5 Nos.
28	Frame	4.5" x 6.5" for 5" x 7	5 Nos.
29	Thinner	5 Litres	1 Nos.
30	Safety Pin	~1.8 inches	20 Nos.
31	Containers	5 Litres	3 Nos.
32	Paint Brush	Angled Taper / Sash Brush	5 Nos.
33	Chalk Powder	20 Kg	1 Nos.
34	Araldite	Resin 100g + Hardener 80g	5 Nos.
35	Acrylic Paints	20 Litres	1 Nos.
36	Varnish	5 Litres	1 Nos.
37	Chisel	6-12 MM	5 Nos.
38	Hammer	Wooden	3 Nos.
39	Needle	3-8 MM	5 Nos.
40	Reg Mark	3 Kg	2 Nos.
41	Flat bar	12 x 3 MM	3 Nos.
42	Files	3 x 2 inches	2 Nos.

**Note: -**

- 1. All the tools and equipment are to be procured as per BIS specification.*

**Marks Distribution**

<b>Outcome</b>	<b>Outcome Code</b>	<b>Total Th marks</b>	<b>Total Pr marks</b>	<b>Total OJT marks</b>
Apply Safe Working Practices	HAC/1504/OC1	10	70	0
Examine the type of material and material productivity standards	HAC/1504/OC2	20	70	0
Collect tools and equipment as per the SOPs	HAC/1504/OC3	20	70	0
Prepare the colour samples and oxides while mixing them in a prescribed quantities	HAC/1504/OC4	20	80	0
Demonstrate the sketching and painting process on decorative artefacts	HAC/1504/OC5	20	80	0
Check colour quality and colour productivity standards	HAC/1504/OC6	20	70	0
Maintain product packaging SOPs	HAC/1504/OC7	10	70	0
Practice of E-commerce activities	HAC/1504/OC8	20	70	0
Carry adequate waste management	HAC/1504/OC9	10	70	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	HAC/1504/OC10	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0