

Silk Screen Printing Operator (SSPOA)

Syllabus

(Safety Practices 25 Hrs, Theory 100 Hrs, Practical 450 Hrs, Employability Skill 75 Hrs)

Details of Theory & Practical Syllabus

Sl. No	CONTENT	DETAILS	HOURS
1	Communicate with supervisor		70
	Theory	<ol style="list-style-type: none">1. explain standard procedures to be followed while receiving the job order and instructions from reporting supervisor2. explain standard operating procedures to be followed to resolve doubts on design, usage of material & tools, quality & standards compliance, etc. to team members at workplace3. identify the ways to enhance the level of empathy across genders while giving assistance to colleagues at the workplace4. Discuss the importance of preparing the records based on standard organizational parameters in order to achieve production as per the periodic schedules	40
	Practical	<ol style="list-style-type: none">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 design2. Demonstrate the washing process as per standard procedures in order to make the fabric dust and dirt free for further processing3. Perform visual inspection process in order to check the fabric is dried completely based on standard parameters4. Perform the standard operating procedures while marking the layout in order to meet the desired design specifications	30
2	Arrange the required raw materials and ingredients		80
	Theory	<ol style="list-style-type: none">1. describe the process of handling clean material, tool and equipment at workplace2. explain the importance of preparing the list of raw materials and ingredients in prescribed quantities to achieve the desired colour solution3. discuss the importance of marking/coding/ labelling/ numbering while maintaining reports and records	20
	Practical	<ol style="list-style-type: none">1. demonstrate usage of tools and equipment for further processing2. perform standard operating procedures to be followed while collecting raw materials and ingredients in prescribed quantities from the designated storage location3. demonstrate the organizational SOPs required to place the raw materials and ingredients at workplace for further processing4. apply the standard procedures to be followed while delivering the remaining and unused material at the designated storage location5. choose the suitable PPE based on the prescribed Job Sheet at the workplace	60
3	Mix the ingredients and oxides to obtain the desired design colour pattern		70
	Theory	<ol style="list-style-type: none">1. describe the importance of using PPE at the time of handling tools and equipment at workplace2. Identify the parameters required for inspection process in the prepared colour solution to check the quality and density	20

	<u>Practical</u>	<ol style="list-style-type: none"> 1. follow standard operating procedures to monitor the functioning of exposure unit based on time duration, pressure, volume, and colour formulation density 2. demonstrate the process of mixing the raw materials and ingredients in the container of prescribed volume and size 3. examine the overall functioning of exposure unit from setting up for the prescribed operation and turn off after regular interval of time 4. demonstrate the standard operating procedures to be followed while removing or unloading the colour formulation from the container 5. prepare a sample format /template to collect information during inspection 6. based on colour viscosity, oxide granules, nature of hue and colour saturation range 7. ensure that work area and tools are cleaned and inspected according to workplace procedures 	50
4	Check colour quality and colour productivity standards		80
	<u>Theory</u>	<ol style="list-style-type: none"> 1. explain how to monitor the workplace and work processes for potential risks and threats 2. discuss the parameters that indicate deviation in the prepared colour solution based on pre heating radiations and post heating radiations 3. explain the standard organizational parameters that are followed to examine the colour productivity standards 	20
	<u>Practical</u>	<ol style="list-style-type: none"> 1. demonstrate the SOPs that are required to check the prepared solution during the process based on its colour saturation properties 2. carry adequate safety measures while handling materials, chemicals, and tools 3. perform the standard thermal procedures to examine the exposure unit temperature based on the results as per the job sheet 4. prepare the sample template that indicate all the standard results achieved during this operation 5. review the periodic schedules based on that productions rate can be evaluated after the regular interval of time as per SOP. 6. demonstrate the process of proper labelling mechanism of instruments/ boxes/ containers and maintaining reference files/documents with the codes and the lists 	60
5	Demonstrate the silk screen printing process		85
	Theory	<ol style="list-style-type: none"> 1. explain the importance of selecting the frame as per standard parameters such as material, pattern, size and dimensions based on design specifications 2. discuss the schedule of working with supervisor prior to perform silk screen printing operation 3. discuss the repetition of the process to achieved uniform results on the object 4. discuss the importance of using gloves as per the materials used for making handicraft to avoid blisters; scratches and cuts 	20
	Practical	<ol style="list-style-type: none"> 1. follow the SOP while placing the frame and screen at the work station for further processing 2. demonstrate the process of apply the emulsion across the mesh as per the prescribed quantity and design specifications 	65

		<ol style="list-style-type: none"> ensure that the screen is placed on the top side on design is placed in a closed vacuum surface follow SOPs while placing the weight of appropriate volume on the frame in order to provide additional strength perform the emulsion process by UV exposure unit as per the standard safety procedures examine the edges of the frame are tightly taped to prevent from moisture and leakage demonstrate the process of placing the ink as per the prescribed quantity on the screen perform the squeezing with squeezing blade helps to spread the ink over the mesh and the design is imprinted repeat the same steps to obtained the multiple copies of the design colour pattern 	
6	Carry out reporting and documentation		65
	<u>Theory</u>	<ol style="list-style-type: none"> identify the parameters required for the inspection process in printing manufacturing unit list the different quality parameters to be checked in the silk screen printing operation List the parameters to be included while maintaining a master record book 	19
	<u>Practical</u>	<ol style="list-style-type: none"> apply standard operating procedures to prepare periodic working schedules based on the current market preference describe the importance of implementing innovations/ new ideas and processes within organizational standards maintain and follow the periodic schedule of servicing of machines, tools and equipment to reduce the maintenance and enhance the capacity at the workplace prepare a sample format /template to collect information during inspection based on the operational parameters that required in making the final product perform the SOPs to carry the servicing and maintenance records of tools and equipment and machines 	46
7.	Ensure workplace safety		25
	<u>Theory</u>	<ol style="list-style-type: none"> describe the health and safety related instructions applicable to the workplace explain how to monitor the workplace and work processes for potential risks and threats discuss workplace hygiene, sanitation and job specific safety procedures 	09
	<u>Practical</u>	<ol style="list-style-type: none"> demonstrate how to clean and maintain the cleanliness of the work area using approved sanitizers to keep it free from dust, waste, and spillage carry adequate safety measures while handling materials, chemicals, and tools apply standard operating procedures to clean the tools and equipment used with recommended sanitizers following specifications and organizational standards report any accidents, incidents or problems without delay to the supervisor and take necessary immediate participate actively in employee work groups on 5s and encourage team members for active participation 	16

8	Maintain Workplace Security		15
	<u>Theory</u>	<ol style="list-style-type: none"> 1. explain how to speak and behave in a calm way while dealing with accidents and emergencies 2. follow organization procedures for evacuation when required 3. comply with health, safety and security related instructions applicable to the workplace 	06
	<u>Practical</u>	<ol style="list-style-type: none"> 1. follow environment management system related procedures 2. monitor the workplace and work processes for potential risks and threats 3. take action based on instructions in the event of fire, emergencies or accidents 4. participate mock drills/evacuation procedures based on organizational standards and procedures in case of an emergency 5. follow organization procedures for evacuation when required 	09
9	Carry adequate waste management		40
	<u>Theory</u>	<ol style="list-style-type: none"> 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 	10
	<u>Practical</u>	<ol style="list-style-type: none"> 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 	30
10	Maintain practices for Personal Hygiene at workplace		45
	<u>Theory</u>	<ol style="list-style-type: none"> 1. explain the importance of organizing cyclic sessions at the workplace to create awareness on the usage of appropriate health-related equipment in case of any emergency 2. identify common types of injuries that might occur and affect the participant's at the workplace emergencies at work 3. identify basic health concerns like fever, cold & cough, etc. for self, colleague and other family members 4. discuss the importance of using a dust mask at the workplace to prevent mouth and nose from dust particles and dangerous bacteria 	10
	<u>Practical</u>	<ol style="list-style-type: none"> 1. discuss the importance of using gloves as per the materials used for working printing operations to avoid blisters; scratches and cuts 2. demonstrate different ways in case of an emergency at home and use of emergency helpline numbers etc. 3. follow SOPs at workplace related to health and hygiene such as social distancing, sanitization and cleanliness 4. apply the SOPs to organize the preventive health check-ups at regular interval of time 5. demonstrate the appropriate SOPs required to clean the work 	35

		place, tools and equipment, machines, uniforms etc. at regular interval of time in order to avoid any injury or infection	
11	Understand and practice soft skills		25
	<u>Theory</u>	<ol style="list-style-type: none"> 1. describe the significance of working with cooperation, coordination, communication, and collaboration among the team members at the workplace 2. illustrate the importance of displaying courteous and helpful behaviour to others at the workplace 3. distinguish the ways to enhance the level of empathy across genders while assisting colleagues at the workplace 	05
	<u>Practical</u>	<ol style="list-style-type: none"> 1. carry and follow the standard organizational procedures to avoid conflicts situations and ensure smooth workflow 2. demonstrate the SOPs to resolve doubts on design, usage of material & tools, quality & standards compliance, etc. to team members at the workplace 3. practice different ways of communicating with the supervisor for maintenance and repair schedules at the workplace 4. comprehend the ways to intensify the level of empathy across genders while assisting colleagues at the workplace 	20
12	Demonstrate knowledge of concept and principles of basic arithmetic and financial calculation, and apply knowledge of specific area to perform practical operations		25
	<u>Theory</u>	<ol style="list-style-type: none"> 1. differentiate between Wage employment, Self-employment and Entrepreneurship 2. explain standard operating procedures to prepare periodic working schedules based on the current market preference 3. discuss the importance of collecting information about banking, loan, procurement and subsidiaries etc. from the designated person at workplace 	10
	<u>Practical</u>	<ol style="list-style-type: none"> 1. maintain simple books of accounts and prepare financial statement for small business 2. apply SOPs to devise a simple marketing and sales strategies and plan for a small business 3. maintain the bills and record the prices of procurement for future reference 4. prepare the sample template of basic accounting such as cost of materials & labour and basic concepts of profit/loss 5. carry out the standard procedures required to execute basic day to day banking activities 	15
13	Explain time management, entrepreneurship and manage/organize related task in day to day work for personal & social growth		25
	<u>Theory</u>	<ol style="list-style-type: none"> 1. describe the significance of analyzing the different cues from the market 2. illustrate the importance of following standard operating procedures to make the product more productive, reliable and cost-effective 3. address the importance of preparing the inventory of raw materials based on the recommended working schedule to enhance productivity at the workplace 	15

	<u>Practical</u>	<ol style="list-style-type: none"> 1. apply organizational standard measures to establish proper coordination among the team members to increase the productivity at the workplace 2. apply the standard organizational procedures to ensure the products are made based on the existing market demand and trends 3. maintain necessary documents as per local government and regulatory requirement take necessary approvals from GST /Shop act/MSME for export related activities 4. list the activities are essential for DIY and related to advertising and marketing for product promotion 	10

Detail of Employability Skills Syllabus

Sl. No.	Content	Details
1.	English Literacy & Communication Skills	<p>Accentuation (mode of pronunciation) on simple words, Diction (use of word and speech)</p> <p>Transformation of sentences, Voice change, Change of tense, Spellings. Reading and understanding simple sentences about self, work and environment. Construction of simple sentences, Writing simple English.</p> <p>Speaking with preparation on self, on family, on friends, classmates, on know, picture reading gain confidence through role-playing . Taking messages, passing messages on and filling in message forms Greeting and introductions office hospitality, Resumes or curriculum vita essential parts, letters of application reference to previous communication.</p> <p>Communication and its importance, Principles of Effective communication, Types of communication – verbal, non verbal, written, email, talking on phone. Non verbal communication –characteristics, components-Para-language, Body – language, Barriers to communication and dealing with barriers.</p> <p>Handling nervousness/ discomfort.</p> <p>Self awareness, Importance of Commitment, Ethics and Values, Ways to Motivate Oneself, Personal Goal setting and Employability Planning.</p> <p>Manners, Etiquettes, Dress code for an interview, Do's & Don'ts for an interview, Problem Solving, Confidence Building, Attitude.</p>
2.	I.T. Literacy	<p>Introduction, Computer and its applications, Hardware and peripherals, Switching on-Starting and shutting down of computer.</p> <p>Basics of Operating System, WINDOWS, The user interface of Windows OS, Create, Copy, Move and delete Files and Folders, Use of External memory like pen drive, CD, DVD etc, Use of Common applications.</p> <p>Basic operating of Word Processing, Creating, opening and closing Documents, use of shortcuts, Creating and Editing of Text, Formatting the Text, Insertion & creation of Tables. Printing document.</p> <p>Basics of Excel worksheet, understanding basic commands, creating simple worksheets, understanding sample worksheets, use of simple formulas and functions, Printing of simple excel sheets</p> <p>Internet, Concept of Internet (Network of Networks), Meaning of World Wide Web (WWW), Web Browser, Web Site, Web page and Search Engines. Accessing the Internet using Web Browser, Downloading and Printing Web Pages, Opening an email account and use of email. Social media sites and its implication.</p> <p>Information Security and antivirus tools, Do's and Don'ts in Information Security, Awareness of IT – ACT, types of cyber crimes.</p>
3.	Entrepreneurship Skills	<p>Entrepreneurship vs. management, Entrepreneurial motivation. Performance & Record, Role & Function of Entrepreneur, Qualities of a good Entrepreneur,</p>

		<p>SWOT and Risk Analysis. Concept & application of PLC, Sales & distribution Management. Different Between Small Scale & Large Scale Business, Market Survey, Method of marketing, Publicity and advertisement, Marketing Mix. Preparation of Project. Role of Various Schemes and Institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non financing support agencies to familiarizes with the Policies / Programmes & procedure & the available scheme.</p> <p>Project formation, Feasibility, Legal formalities i.e., Shop Act, Estimation & Costing, Investment procedure – Loan procurement – Banking Processes.</p>
4.	Productivity & Quality Tools	<p>Definition, Necessity, Meaning of GDP.</p> <p>Personal / Workman – Incentive, Production linked Bonus, Improvement in living standard. Industry Nation.</p> <p>Skills, Working Aids, Automation, Environment, Motivation. How improves or slows down.</p> <p>Banking processes, Handling ATM, KYC registration, safe cash handling, Personal risk and Insurance.</p> <p>Meaning of quality, Quality characteristic. Definition, Advantage of small group activity, objectives of quality Circle, Roles and function of Quality Circles in Organization, Operation of Quality circle. Approaches to starting Quality Circles, Steps for continuation Quality Circles.</p> <p>Idea of ISO 9000 and BIS systems and its importance in maintaining qualities.</p> <p>Purpose of Housekeeping, Practice of good House keeping. Basic quality tools with a few examples</p>

Outcomes

Outcomes to be assessed	Assessment criteria for the outcome
Module 1: Arrange the raw materials and ingredients	
1. Communicate with supervisor	1.1 Receive the job order and instructions from supervisor as per the SOP
	1.2 Coordinate with supervisor to seek clarification on design, production, maintenance and repair schedules at
	1.3 Assess the problems effectively and report if required to supervisor appropriately
	1.4 Convey to colleagues and line workers for appropriate work techniques and methods
	1.5 Plan and prioritize sequence of activities, work schedules and volume of production in coordination with
	1.6 Deliver timely the inspection reports of tools and equipment to supervisor as per SOP
2. Arrange the required raw materials and ingredients	2.1. List the raw materials and ingredients required for preparing the colour solution
	2.2. Arrange tools and equipment for processing the screen printing
	2.3. Examine the properties of frame with mesh based on the emulsion and design patterns
	2.4. Collect the required raw materials and ingredients from the store as per the prescribed quantities and labeling
	2.5. Place all the collected raw materials and ingredients at the work place
	2.6. Deliver the remaining raw material and ingredients at designated location as per the SOP with proper labelling that ensures traceability and identification

3. Mix the ingredients and oxides to obtain the desired design colour pattern	3.1. Select the PPE required to handle the tools and equipment
	3.2. Monitor the functioning of exposure unit to make stencils using UV light sensitive emulsion on the screen
	3.3. Mix the raw materials and ingredients in the container of prescribed volume and size
	3.4 Perform mixing operation as per the SOP to ensure appropriate colour formation is being achieved
	3.5 Examine the prepared colour composition based on color viscosity, oxides granules, nature of hue, and color saturation range
	3.6 Maintain and examine the overall functioning of the UV unit as per the standard operating procedures
	3.7 Turn off the exposure unit at the right interval of time
	3.8 Remove the prepared colour formulation from the container
	3.9 Clean tools and equipment after their use to prevent colour spots, stains and rust
4. Check colour quality and colour productivity standards	4.1 Compare the colour as per the colour quality standards during pre-heating or post heating operations
	4.2 Maintain records of inspection results and tests as per prescribed job sheet
	4.3. Review the periodical targets set by the supervisor
Module 2 Perform the silk screen printing operation	
5. Demonstrate the silk screen printing process	5.1 Select the frame material based on the design pattern and specifications
	5.2 Place frame and screen in an appropriate manner for further processing
	5.3 Apply the SOPs to spread the emulsion across the mesh
	5.4 Ensure that the screen is placed on the top side on design is placed in a closed vacuum surface
	5.5 Place the weight of appropriate quantity to give additional strength for further processing
	5.6. Perform the emulsion process through exposure unit
	5.7. Ensure that edges of the frame are properly taped to avoid moisture and leakage
	5.8. Attach the screen to print bench and the material to be printed on bottom of the screen
	5.9. Apply good quantity of ink required to spread across the screen
	5.10. Perform the squeezing with squeezing blade helps to spread the ink over the mesh and the design is imprinted
	5.11. Perform the same steps to obtained the multiple copies of the design colour patterns

6. Carry out reporting and documentation	6.1. Maintain documentation including periodic working
	6.2. Ensure that documents are available for all the appropriate authorities for inspection
	6.3. Enhance productivity by adopting several appropriate measures like automation, motivation, process planning, resource planning etc.
	6.4. Ensure that work area and tools are cleaned and inspected according to workplace procedures
	6.5. Prepare sample report carrying all the working schedules and day to day activities
Module 3 : Maintain Health, Hygiene and Safety at Workplace	
7. Ensure workplace safety and security SOPs	7.1 Outline the health, safety and security policies at workplace to avoid workplace for potential risks and threats
	7.2 Follow adequate safety standards while handling materials, chemicals, tools, and electrical equipment
	7.3 Sanitize hands at regular intervals using hand wash & alcohol-based sanitizers
	7.4 Clean the workplace using sanitizers and keep it free from dust, waste and spillage
	7.5 Ensure that personal protective equipment is available at the workplace at all time
	7.6 Follow first procedures during emergencies situations at the workplace
	7.7 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
8. Carry adequate waste management	8.1 Employ standard procedures of waste disposal and waste storage in the proper containers as per SOP
	8.2 Place the used PPEs in a designated bag, sealed and labelled as contagious waste
	8.3 Segregate the recycled and non-recycled wastes as per SOP
9. Maintain practices for Personal Hygiene at workplace	9.1 Take appropriate health and hygiene procedures at the workplace to avoid injuries and health issues
	9.2 Maintain social distancing in social gatherings at the workplace
	9.3 Use mask at the workplace to prevent mouth and nose from dust particles and dangerous bacteria
	9.4 Identify health concerns like fever, cold & cough, etc. for self, colleague and other family members
	9.5 Report any flu-like symptoms, fever, diarrhoea, sore throat, constant sneezing, coughing, runny nose and vomiting to the supervisor
	9.6 Undergo preventive health check-ups at regular intervals as per the SOP
10. Understand and practice soft skills	10.1 Assessor will rate the trainee on his ability to practice soft skills, including clear and concise communication, in day to day work with team and with higher authority

<p>11. Demonstrate knowledge of concept and principles of basic arithmetic and financial calculation and apply knowledge of specific area to perform practical operations.</p>	<p>11.1 Apply basic arithmetic calculations for arriving dimensional parameters as per drawing. 11.2 Apply basic financial calculation to understand cost of materials & labour and basic concepts of profit/loss, 11.3 Engage in basic banking transactions as customer</p>
<p>12. Explain time management, entrepreneurship and manage/organize related task in day to day work for personal & social growth.</p>	<p>12.1 Ascertain appropriate time for the assigned task. 12.2 Execute the assigned task within time frame. 12.3 Manage own work within specified time. 12.4 Explain importance & factors affect the development of entrepreneurship. 12.5 Identify service providers for developing entrepreneur/business establishment.</p>