

PRINTING TEXTILE

COMPETENCY BASED CURRICULUM

(Duration: 06 months.)

APPRENTICESHIP TRAINING SCHEME (ATS)

NSQF LEVEL- 3



SECTOR – APPAREL



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

PRINTING TEXTILE

(Revised in 2018)

APPRENTICESHIP TRAINING SCHEME (ATS)



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Developed By

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Special acknowledgement by DGT to the following expert members who have contributed immensely in this curriculum.

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9.	R.G. Shetya, Dy. Secretary (P)	Bombay Millowners Association, Bombay	Member

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1.1 Apprenticeship Training Scheme under Apprentice Act 1961

The Apprentices Act, 1961 was enacted with the objective of regulating the programme of training of apprentices in the industry by utilizing the facilities available therein for imparting on-the-job training. The Act makes it obligatory for employers in specified industries to engage apprentices in designated trades to impart Apprenticeship Training on the job in industry to school leavers and person having National Trade Certificate (ITI pass-outs) issued by National Council for Vocational Training (NCVT) to develop skilled manpower for the industry. There are four categories of apprentices namely; **trade apprentice, graduate, technician and technician (vocational) apprentices.**

Qualifications and period of apprenticeship training of **trade apprentices** vary from trade to trade. The apprenticeship training for trade apprentices consists of basic training followed by practical training. At the end of the training, the apprentices are required to appear in a trade test conducted by NCVT and those successful in the trade tests are awarded the National Apprenticeship Certificate.

The period of apprenticeship training for graduate (engineers), technician (diploma holders and technician (vocational) apprentices is one year. Certificates are awarded on completion of training by the Department of Education, Ministry of Human Resource Development.

1.2 Changes in Industrial Scenario

Recently we have seen huge changes in the Indian industry. The Indian Industry registered an impressive growth during the last decade and half. The number of industries in India have increased manifold in the last fifteen years especially in services and manufacturing sectors. It has been realized that India would become a prosperous and a modern state by raising skill levels, including by engaging a larger proportion of apprentices, will be critical to success; as will stronger collaboration between industry and the trainees to ensure the supply of skilled workforce and drive development through employment. Various initiatives to build up an adequate infrastructure for rapid industrialization and improve the industrial scenario in India have been taken.

1.3 Reformation

The Apprentices Act, 1961 has been amended and brought into effect from 22nd December, 2014 to make it more responsive to industry and youth. Key amendments are as given below:

- Prescription of number of apprentices to be engaged at establishment level instead of trade-wise.
- Establishment can also engage apprentices in optional trades which are not designated, with the discretion of entry level qualification and syllabus.
- Scope has been extended also to non-engineering occupations.
- Establishments have been permitted to outsource basic training in an institute of their choice.
- The burden of compliance on industry has been reduced significantly.



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2.1 GENERAL

Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers range of vocational training courses catering to the need of different sectors of economy/ Labour market. The vocational training programmes are delivered under aegis of National Council of Vocational Training (NCVT). Craftsman Training Scheme (CTS) and Apprenticeship Training Scheme (ATS) are two pioneer programmes of NCVT for propagating vocational training.

Printing Textile trade under ATS is one of the most popular courses delivered nationwide through different industries. The course is of Six month duration (01 Block of 6months including basic training). It mainly consists of Domain area and Core area. In the Domain area Trade Theory & Practical impart professional - skills and knowledge, while Core area - and Employability Skills imparts requisite core skills & knowledge and life skills. After passing out the training programme, the trainee is being awarded National Apprenticeship Certificate (NAC) by NCVT having worldwide recognition.

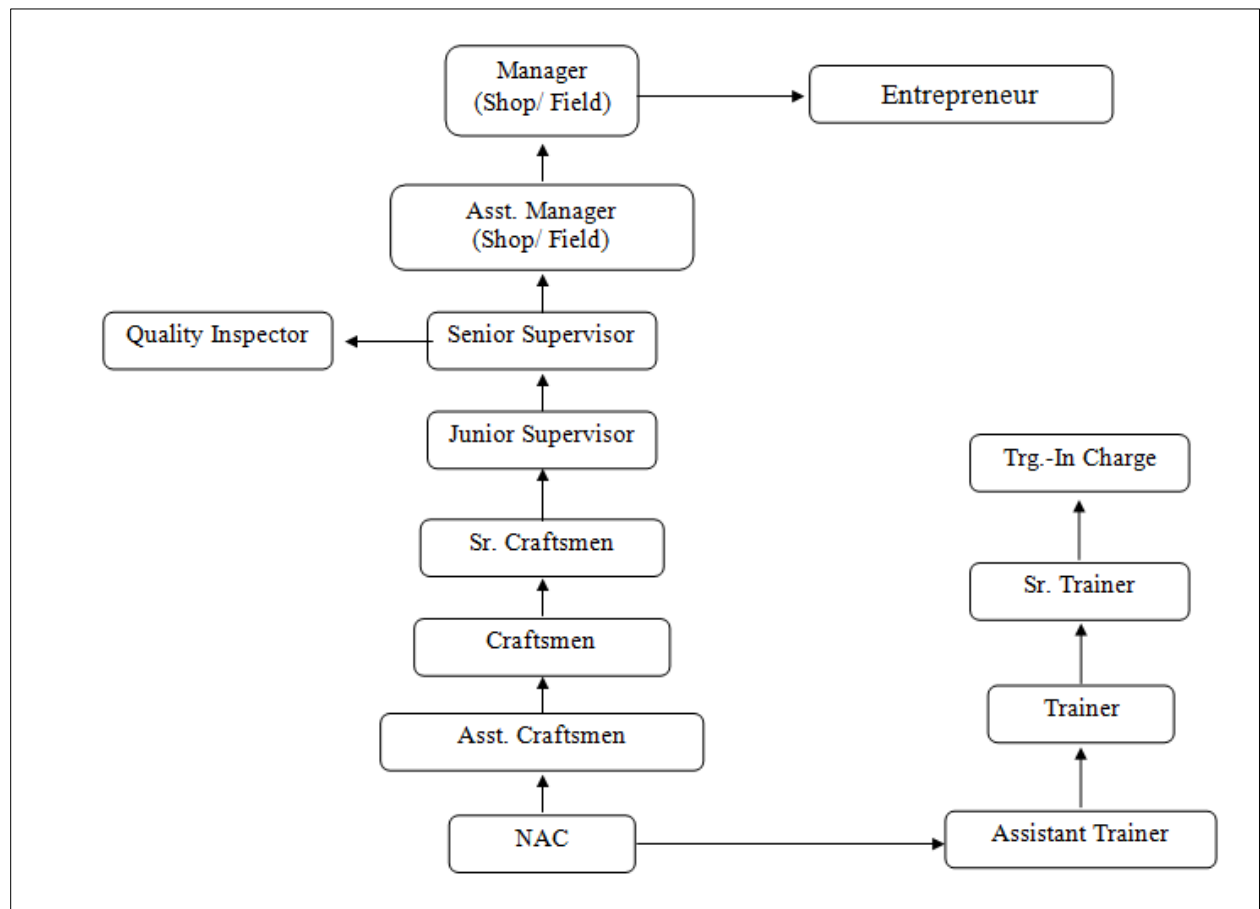
Broadly candidates need to demonstrate that they are able to:

- Identify necessary materials and tools;
- Perform task with due consideration to safety rules.
- Apply professional skill, knowledge, core skills & employability skills while performing jobs.

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2.2 CAREER PROGRESSION PATHWAYS:

- Indicative pathways for vertical mobility.



2.3 COURSE STRUCTURE:

Table below depicts the distribution of training hours across various course elements during a period of Six Months (*Basic Training and On-Job Training*):-

Total training duration details: -

Time (in months)	1	2-6
Basic Training	Block– I	-----
Practical Training (On - job training)	----	Block – I

A. Basic Training

For 02 yrs. Course (Non-Engg.): - **Total 03 months:** 03 months in 1styr.only

For 01 yr. Course (Non-Engg.): - **Total 03 months:** 03 months in 1st yr.

For 06 months Course (Non – Engg.): - **Total 01 month:** 01 month in 06 Months duration

Sl. No.	Course Element	Total Notional Training Hours (For 06 months course)
1	Professional Skill (Trade Practical)	100
2	Professional Knowledge (Trade Theory)	45
3	Employability Skills	55
	Total (including Internal Assessment)	200

B. On-Job Training:-

For 06Months Course (Non-Engg.) :- (**Total 05 months**)

Notional Training Hours for On-Job Training: 840 Hrs.

C. Total training hours:-

Duration	Basic Training	On-Job Training	Total
For 02 yrs. Course (Non-Engg.)	500 hrs.	3640 hrs.	4140 hrs.
For 01 yr. Course (Non-Engg.)	500 hrs.	2080 hrs.	2580 hrs.
For 06 months Course (Non-Engg.)	200 hrs.	840 hrs.	1040 hrs.

2.4 ASSESSMENT & CERTIFICATION:

The trainee will be tested for his skill, knowledge and attitude during the period of course and at the end of the training programme as notified by Govt of India from time to time. The Employability skills will be tested in first two semesters only.

a) The **Internal assessment** during the period of training will be done by **Formative assessment method** by testing for assessment criteria listed against learning outcomes. The training institute have to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the template (Annexure – II).

b) The final assessment will be in the form of summative assessment method. The All India Trade Test for awarding NAC will be conducted by NCVT on completion of course as per guideline of Govt of India. The pattern and marking structure is being notified by govt of India from time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final assessment. The examiner during final examination will also check individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.**

2.4.1 PASS REGULATION

The minimum pass percent for Practical is 60% & minimum pass percent for Theory subjects 40%. The candidate pass in each subject conducted under all India trade test.

2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking assessment. Due consideration should be given while assessing for team work, avoidance/reduction of scrap/wastage and disposal of scarp/wastage as per procedure, behavioral attitude, sensitivity to environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

Evidences of internal assessments are to be preserved until forthcoming semester examination for audit and verification by examination body. The following marking pattern to be adopted while assessing:

Performance Level	Evidence
(a) Weightage in the range of 60 -75% to be allotted during assessment	
For performance in this grade, the candidate with occasional guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of an acceptable standard of craftsmanship.	• Demonstration of good skill in the use of hand tools, machine tools and workshop equipment • Below 70% tolerance dimension/accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A fairly good level of neatness and consistency

	in the finish Occasional support in completing the project/job.
(b) Weightage in the range of above 75% - 90% to be allotted during assessment	
For this grade, the candidate, with little guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a reasonable standard of craftsmanship.	- Good skill levels in the use of hand tools, machine tools and workshop equipment 70-80% tolerance dimension/accuracy achieved while undertaking different work with those demanded by the component/job/set standards. - A good level of neatness and consistency in the finish - Little support in completing the project/job
(c) Weightage in the range of above 90% to be allotted during assessment	
For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.	- High skill levels in the use of hand tools, machine tools and workshop equipment - Above 80% tolerance dimension/accuracy achieved while undertaking different work with those demanded by the component/job/set standards. - A high level of neatness and consistency in the finish. - Minimal or no support in completing the project.

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Brief description of Job roles:

Hand Printer, Textile prints patterns of various designs and shades on textiles by hand using blocks, stencils, screen, spray gun etc. Mixes dyes to desired shade and thickness. May be known as CALICO PRINTER if engaged in printing cloth only.

Printing Jobber; Printing Machine Man; Printer (Textile) prints patterns of various designs and colours of cloth by operating printing machine. Checks condition of belts, gears, doctor blade, lapping of drum or cylinder etc. Sets engraved rollers. Runs test piece of cloth through machine and compares it with sample. Makes necessary adjustments to rollers and doctor blade. Regulates pressure and speed. Grinds and sharpens doctor blade when necessary. Supervises work of Frontman and Printing Machine Operatives. Ensures proper colour mixing, colour matching, quality of printing production and upkeep of machine, etc.

Frontman; **Assistant Printer; Assistant Printing Machine man (Textile)** assists printer in printing patterns of various designs and colours of cloth. Checks operational efficiency of printing machine, adjusting various parts if necessary, and reports defects to Printer. Prepares colours to correct consistency by mixing ingredients in suitable vessel, and test checks shade of colour; fills front colour tray with prepared colour paste; fits and locks printing roller, engraved with design/pattern in position on machine; supervises rolling of cloth into machine ensuring smooth run through various rollers. Starts and stops machine as directed by Printer. Watches printed cloth coming out from engraved rollers for defects in print or shade. May carry out routine repairs on printing machine.

Reference NCO 2015:

- i) 7318.0500 - Hand Printer, Textile
- ii) 7322.1300 - Printing Jobber
- iii) 7322.1600 - Assistant Printer; Assistant Printing Machine man (Textile)

4. NSQF LEVEL COMPLIANCE

NSQF level for Printing Textile trade under ATS: **Level 3**

As per notification issued by Govt. of India dated- 27.12.2013 on National Skill Qualification Framework total 10 (Ten) Levels are defined.

Each level of the NSQF is associated with a set of descriptors made up of five outcome statements, which describe in general terms, the minimum knowledge, skills and attributes that a learner needs to acquire in order to be certified for that level.

Each level of the NSQF is described by a statement of learning outcomes in five domains, known as level descriptors. These five domains are:

- a. Process
- b. Professional knowledge,
- c. Professional skill,
- d. Core skill and
- e. Responsibility.

The Broad Learning outcome of Printing Textile trade under ATS mostly matches with the Level descriptor at Level- 3.

The NSQF level-3 descriptor is given below:

Level	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
Level 3	person may carry out a job which may require limited range of activities routine and predictable	Basic facts, process and principle applied in trade of employment	recall and demonstrate practical skill, routine and repetitive in narrow range of application	Communication written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment	Under close supervision Some Responsibility for own work within defined limit.

5. GENERAL INFORMATION

Name of the Trade	Printing Textile
NCO - 2015	7318.0500, 7322.1300, 7322.1600
NSQF Level	Level – 3
Duration of Apprenticeship Training (Basic Training + On-Job Training)	1 month+ Five Months (01 Block of 06 months duration including basic training).
Duration of Basic Training	a) Block –I : 1 month Total duration of Basic Training: 1 month
Duration of On-Job Training	a) Block–I: 5 months Total duration of Practical Training: 5 months
Entry Qualification	Passed 8th class or its equivalent under 10+2 system of education.
Selection of Apprenticeship	The apprentices will be selected as per Apprenticeship Act amended time to time.
Instructors Qualification for Basic Training	As per ITI instructors qualifications as amended time to time for the specific trade.
Infrastructure for basic training	As per related trade of ITI.
Examination	The internal examination/ assessment will be held on completion of each block. Final examination for all subjects will be held at the end of course and same will be conducted by NCVT.
Rebate to Ex-ITI Trainees	NA
CTS trades eligible for Printing Textile (Apprenticeship)	NA

Note:

- Industry may impart training as per above time schedule for different block, however this is not fixed. The industry may adjust the duration of training considering the fact that all the components under the syllabus must be covered. However the flexibility should be given keeping in view that no safety aspects is compromised.
- For imparting Basic Training the industry to tie-up with ITIs having such specific trade and affiliated to NCVT.

6.1 GENERIC LEARNING OUTCOME

The following are minimum broad Common Occupational Skills/ Generic Learning Outcome after completion of the Printing (Textile) course of 06 Months duration under ATS.

Block I:

1. Recognize & comply safe working practices.
2. Explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day to day work to improve productivity & quality.
3. Explain entrepreneurship related task in day to day work for personal & societal growth.

6.2 SPECIFIC LEARNING OUTCOME

Block – I

1. Identify safety precautions as applicable to the trade, different textile fibres and properties of each fibre.
2. Select proper dyestuffs and chemicals used in printing.
3. Prepare different mixtures of colours and develop new shades by colour matching.
4. Select suitable thickener for printing and perform the cooking of thickener and make pastes.
5. Apply colour matching to the different types of cloths.
6. Fix the backgrey and set the printing table properly for printing.
7. Carry out steaming/ curing of the printed goods.
8. Wash the steamed fabrics and do the subsequent after treatment.
9. Select suitable thickener for roller printing & adjust viscosity of the thickener.
10. Adjust design rollers, start and stop the roller printing machine, feed the colour paste in the printing machine.
11. Carry out fixing, development, washing & drying procedure of the printed goods.
12. Spread the fabric over the printing table and pin for subsequent printing.
13. Watch common defects, find out their causes and necessary precautions for avoiding these defects.

Note: Learning outcomes are reflection of total competencies of a trainee and assessment will be carried out as per assessment criteria.

7. LEARNING OUTCOME WITH ASSESSMENT CRITERIA

GENERIC LEARNING OUTCOME	
LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Recognize & comply safe working practices, environment regulation and housekeeping.	1.1 Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements.
	1.2 Recognize and report all unsafe situations according to site policy.
	1.3 Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.
	1.4 Identify, handle and store / dispose off dangerous/unsalvageable goods and substances according to site policy and procedures following safety regulations and requirements.
	1.5 Identify and observe site policies and procedures in regard to illness or accident.
	1.6 Identify safety alarms accurately.
	1.7 Report supervisor/ Competent of authority in the event of accident or sickness of any staff and record accident details correctly according to site accident/injury procedures.
	1.8 Identify and observe site evacuation procedures according to site policy.
	1.9 Identify Personal Productive Equipment (PPE) and use the same as per related working environment.
	1.10 Identify basic first aid and use them under different circumstances.
	1.11 Identify different fire extinguisher and use the same as per requirement.
	1.12 Identify environmental pollution & contribute to avoidance of same.
	1.13 Take opportunities to use energy and materials in an environmentally friendly manner
	1.14 Avoid waste and dispose waste as per procedure
	1.15 Recognize different components of 5S and apply the same in the working environment.
2. Explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day to day work to improve productivity & quality.	2.1 Explain the concept of productivity and quality tools and apply during execution of job.
	2.2 Understand the basic concept of labour welfare legislation and adhere to responsibilities and remain sensitive towards such laws.
	2.3 Knows benefits guaranteed under various acts

3. Explain personnel finance, entrepreneurship related task in day to day work for personal & societal growth.	3.1 Explain entrepreneurship.
	3.2 Explain 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.
	3.3 Prepare Project report to become an entrepreneur for submission to financial institutions.

SPECIFIC OUTCOME**Block-I**

Assessment Criteria i.e. the standard of performance, for each specific learning outcome mentioned under block – I (section: 10) must ensure that the trainee performs job that requires limited range of activities which are routine and predictable. Assessment criteria should broadly cover the aspect of Planning (Identify, ascertain, etc.); Execution (perform, illustration, etc. by applying basic methods, tools, materials and information 2) Knowledge of basic facts, process and principle applied in trade of employment) Basic Mathematical Skills and Checking/ Testing to ensure functionality during the assessment of each outcome. The assessments parameters must also ascertain that the candidate is responsible for own work within defined limit.

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BASIC TRAINING (Block – I)

Duration: (01) One Month

Week No.	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
1	Screen Printing Observation of different types of printing table Visual inspection of the printing table for its suitability for faultless printing, all minor points may be checked for faultless printing, starting the heating steam pipe and maintaining the proper heat over the table Fixing the fabric on the table for printing Accurately adjusting the metal stops over the guide rails in the printing table to get correct printing impression in proper place Drying of the cloth, air drying, machine drying. Curing in the polymerizing machine or steaming in the ager, observing the defects of polymerizing like kerosene droppings or yellowing of the cloth, tearing of the selvedge, uneven temperature at both the selvedges and their causes and remedy.	Safety precautions as applicable to the trade History of textile Printing and difference between dyeing and printing. Functions of thickeners, their selections & method of preparations Selections of proper dyestuffs according to the substrate decided for printing Basic knowledge of coloring methods, types of different printing methods, design and adjusting of color depths and tone of make the design more attractive.
2	Complete observation of maintenance schedule of printing tables back grey or rexine cloth, steam pipe, screen etc. Observation of movement of the screen and its fixing and speed adjustment. Watching the common defects in the fabric or in printing, finding out their causes and remedying the same. Necessary precautions for avoiding the defects are to be taken. Maintaining the automatic screen machine by regular oiling, cleaning etc. Fixing the cloth maintaining the rubber sheet roller properly and avoiding stains.	Function of backgrey on screen printing table and roller printing machine. Different methods of fixing the cloth on screen printing. Adjustment & handling of trolley in table screen printing. Elementary knowledge regarding different types of screen viz., wooden frame, steel frames, knowledge of different profiles of squeezes. Knowledge of different types of bolding cloth, mesh size, heat-setting, fixing of bolting cloth to the frame. Procedure for checking the design engraved and sample taking work on the sample table.

	Rottery screen printing machines, its operation and function	
3	Roller Printing Identification and watching the function of all the parts of the machine which were explained during the basic training. Inspection of entire printing machine before it is taken up for operation like checking the washable rubber blanket lapping, flannel, design roller, blanket washing units, all safety guard on the machine. Mounting the design rollers in proper sequence and adjustment of design setting. Proper threading of cloth and backgrey and adjustment of tension for creaseless printing and perfect setting. Observing the actual operation of the printing fabric on the machine. Detecting the faults of printing and damages on the running machine and crminating them	Operation of Roller printing machine & study the machine parts like head-stoke, driving mechanism, control drum, box wheel, mandrells, color furnishers, blanket press roll, design setting parts, different types cloth driers. Importance of lapping flannel, hiram lapping & functions of washable rubber blanket. Actual operations of Roller printing machine, adjustment of designs, feeding of color pastes, setting of doctor blades, working of backgrey and blanket washing unit. Drying of printed goods different methods. Different methods of fixation according to the dyestuffs used. Explaining the mechanism of fixation in details like polymerizing of pigment colours, steaming of vat color, reactive color, indigosol color, radiogen color, Washing and chemical treatment of printed and steamed fabric according to the class of dyestuff used.
4	Observing of the engraving of rollers for printing pantograph and hand engraving. Maintenance of the machine, oiling, greasing of vital parts. Curing machine and its operation & working. Acid ager its function & purpose. Forcing machine – its operation & working Soaper machine - its operation & working Handing of the equipments and maintaining of the safety guards Handling of hazardous chemicals like soda and acids with proper used of hand-gloves, boot and protecting goggles, air marks where necessary. Training of fire- Fighting equipments like soda-ash extinguishers, foam extinguishers, carbon tetrachloride extinguisher.	Observation of engraving of roller and screen marking: - 1. Pentograph Methods 2. Milling engraving 3. Photo engraving 4. Knowledge of different screen making (bolting cloth, heat setting, fixing of bolting, photo sensitive lacquer coating, exposing, developing) Elementary knowledge of different printing methods: - 1. Hand printing 2. Block printing 3. Stencil printing 4. Spray printing 5. Table screen printing 6. Rotary screen printing machine 7. Transfer paper printing Elementary knowledge of application of different class of dyes and their suitability to different substrate.

	Perfect first aid training.	Elementary knowledge of different style of printing viz., Direct, Resist, Discharge, Batik conversion style. Enumeration in details of different printing faults & methods of elementary and remedies.
	Internal Assessment 02days	

Note: - More emphasis to be given on video/real-life pictures during theoretical classes. Some real-life pictures/videos of related industry operations may be shown to the trainees to give a feel of Industry and their future assignment.



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9. SYLLABUS - CORE SKILLS

9.1 EMPLOYABILITY SKILLS

(DURATION: - 55 HRS.)

Topic No.	Topic	Duration (in hours)
	English Literacy	7
1.	Reading Reading and understanding simple sentences about self, work and environment	
2.	Writing Construction of simple sentences Writing simple English	
3.	Speaking / Spoken English Speaking with preparation on self, on family, on friends/ classmates, on know, picture reading gain confidence through role-playing and discussions on current happening job description, asking about someone's job habitual actions. 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.	
	I.T. Literacy	10
1.	Basics of Computer Introduction, Computer and its applications, Hardware and peripherals, Switching on-Starting and shutting down of computer.	
2.	Word processing and Worksheet 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. Basics of Excel worksheet, understanding basic commands, creating simple worksheets, understanding sample worksheets, use of simple formulas and functions, Printing of simple excel sheets. Use of External memory like pen drive, CD, DVD etc,	
3.	Computer Networking and INTERNET 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.	
	Communication Skill	18
1.	Introduction to Communication Skills Communication and its importance Principles of Effective communication Types of communication - verbal, nonverbal, written, email, talking on phone. Nonverbal communication - components-Para-language Body - language Barriers to communication and dealing with barriers.	

2.	Listening Skills Listening-hearing and listening, effective listening, barriers to effective listening guidelines for effective listening.	
3.	Motivational Training Characteristics Essential to Achieving Success The Power of Positive Attitude Self awareness Importance of Commitment Ethics and Values Ways to Motivate Oneself Personal Goal setting and Employability Planning.	
4.	Facing Interviews Manners, Etiquettes, Dress code for an interview Do's & Don'ts for an interview	
	Entrepreneurship skill	
1.	Concept of Entrepreneurship Entrepreneurship- Entrepreneurship - Enterprises:-Conceptual issue. Source of business ideas, Entrepreneurial opportunities, The process of setting up a business.	8
2.	Institutions Support 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.	
	Productivity	
1.	Productivity Definition, Necessity.	
2.	Affecting Factors Skills, Working Aids, Automation, Environment, Motivation How improves or slows down.	
3.	Personal Finance Management Banking processes, Handling ATM, KYC registration, safe cash handling, Personal risk and Insurance.	
	Occupational Safety, Health & Environment Education	6
1.	Safety & Health Introduction to Occupational Safety and Health importance of safety and health at workplace.	
2.	Occupational Hazards Basic Hazards, Chemical Hazards, Vibro-acoustic Hazards, Mechanical Hazards, Electrical Hazards, Thermal Hazards. Occupational health, Occupational hygienic, Occupational Diseases/ Disorders & its prevention.	
3.	Accident & safety Basic principles for protective equipment. Accident Prevention techniques - control of accidents and safety measures.	

4.	First Aid Care of injured & Sick at the workplaces, First-Aid & Transportation of sick person	
	Labour Welfare Legislation	
1.	Welfare Acts Benefits guaranteed under various acts- Factories Act, Apprenticeship Act, Employees State Insurance Act (ESI), Employees Provident Fund Act.	
	Quality Tools	6
1.	Quality Consciousness : Meaning of quality, Quality Characteristic	
2.	Quality Circles : 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.	
3.	House Keeping : Purpose of Housekeeping, Practice of good Housekeeping.	
4.	Quality Tools Basic quality tools with a few examples	

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10. DETAILS OF COMPETENCIES (ON-JOB TRAINING)

The **competencies/ specific outcomes** on completion of On-Job Training are detailed below: -

Block – I

1. Identify safety precautions as applicable to the trade, different textile fibres and properties of each fibre.
2. Select proper dyestuffs and chemicals used in printing.
3. Prepare different mixtures of colours and develop new shades by colour matching.
4. Select suitable thickener for printing and perform the cooking of thickener and make pastes.
5. Apply colour matching to the different types of cloths.
6. Fix the backgrey and set the printing table properly for printing.
7. Carry out steaming/ curing of the printed goods.
8. Wash the steamed fabrics and do the subsequent after treatment.
9. Select suitable thickener for roller printing & adjust viscosity of the thickener.
10. Adjust design rollers, start and stop the roller printing machine, feed the colour paste in the printing machine
11. Carry out fixing, development, washing & drying procedure of the printed goods.
12. Spread the fabric over the printing table and pin for subsequent printing.
13. Watch common defects, find out their causes and necessary precautions for avoiding these defects.

Note:

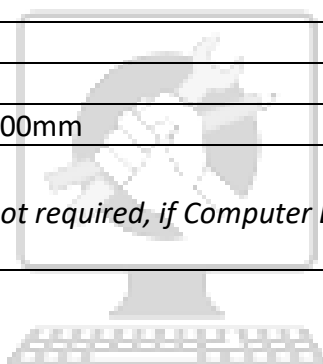
1. Industry must ensure that above mentioned competencies are achieved by the trainees during their on job training.
2. In addition to above competencies/ outcomes industry may impart additional training relevant to the specific industry.

INFRASTRUCTURE FOR PROFESSIONAL SKILL & PROFESSIONAL KNOWLEDGE

PRINTING TEXTILE		
LIST OF TOOLS AND EQUIPMENT for Basic Training		
A. TRAINEES TOOL KIT		
Sl. No.	Name of the items	Quantity (indicative)
1.	Screen with a squeegee	1 No.
2.	Printing table with heating arrangement (Length of table to be 1 : 5 mtr. per apprentice)	1 No.
3.	Small sample roller printing machine (Pilot plan)	1 No.
4.	Fitter tool kit	1 Box
5.	Counter pan balance 5 kg. – 2 kg.	1 Set
6.	Stirrer – Mechanical	1 No.
7.	Stirrer – High speed	1 No.
8.	Heating arrangement – gas burner	1 No.
9.	Drying arrangement/ polymerization arrangement (desirable)	1 No.
10.	Water bath (copper) lab size	1 No.
11.	Vessels for preparing chemicals	As required
12.	Necessary cloth, dyestuff & Chemicals	As required

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TOOLS & EQUIPMENTS FOR EMPLOYABILITY SKILLS		
Sl. No.	Name of the items	Quantity
1.	Computer (PC) with latest configurations and Internet connection with standard operating system and standard word processor and worksheet software	10 Nos.
2.	UPS - 500VA	10 Nos.
3.	Scanner cum Printer	1 No.
4.	Computer Tables	10 Nos.
5.	Computer Chairs	20 Nos.
6.	LCD Projector	1 No.
7.	White Board 1200mm x 900mm	1 No.
<i>Note: - Above Tools & Equipments not required, if Computer LAB is available in the institute.</i>		



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FORMAT FOR INTERNAL ASSESSMENT

Name & Address of the Assessor :						Year of Enrollment :								
Name & Address of ITI (Govt./Pvt.) :						Date of Assessment :								
Name & Address of the Industry :						Assessment location: Industry / ITI								
Trade Name :			Semester:			Duration of the Trade/course:								
Learning Outcome:														
Sl. No	Maximum Marks (Total 100 Marks)		15	5	10	5	10	10	5	10	15	15	Total internal assessment Marks	Result (Y/N)
	Candidate Name	Father's/Mother's Name	Safety consciousness	Workplace hygiene	Attendance/ Punctuality	Ability to follow Manuals/ Written instructions	Application of Knowledge	Skills to handle tools & equipment	Economical use of materials	Speed in doing work	Quality in workmanship	VIVA		
1														
2														