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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

Textile Printing Machine Operator

Options: Printing Screen Making

QP Code: TSC/Q5208

Version: 2.0

NSQF Level: 2

Textile Sector Skill Council || 14-H, 14th Floor, Hansalaya Building, 15, Barakhamba Road
New Delhi – 110001

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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

TSC/Q5208: Textile Printing Machine Operator

Brief Job Description

A Textile Printing Machine operator is responsible for preparation of design screen for printing machine, printing of fabric & smooth operation of machine without damaging either fabric or machine. This job requires the individual to have thorough knowledge of process flow and material flow in a processing mill for fabric production and should know about the important functions and operations of textile printing machine

Personal Attributes

A Textile Printing Machine operator should have physicals attributes like dexterity, coordination, motor skills, strength, stamina and handle heavy equipment. A Textile post processing machine operator should also have sensory attributes like hearing ability and vision (normal distance vision, color vision, night vision, peripheral vision, depth perception and ability to change focus).

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. TSC/N9015: Follow machine, safety, and organizational guidelines in textile sector

2. TSC/N9016: Follow teamwork, adaptability, and communication guidelines in textile sector

3. TSC/N5223: Carryout shift change, production and quality analyse at fabric printing department

4. DGT/VSQ/N0101: Employability Skills (30 Hours)

Options(Not mandatory):

Option : Printing Screen Making

A Screen Preparatory Operator is responsible for preparation of design screen for printing machine. He should be able to operate the machine, carry out routine cleaning & preventive maintenance activities to produce defect free designs.

1. TSC/N5224: Carryout design preparation and quality analyse of the exposed design screen for fabric printing

Qualification Pack (QP) Parameters

Sector	Textile

Sub-Sector	Processing - Textiles
Occupation	Dyeing & Printing
Country	India
NSQF Level	2
Credits	14
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7322.13
Minimum Educational Qualification & Experience	Ability to read and write
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	31/03/2025
NSQC Approval Date	17/11/2022
Version	2.0
Reference code on NQR	2022/TEXT/TSC/07032
NQR Version	1.0

TSC/N9015: Follow machine, safety, and organizational guidelines in textile sector

Description

This unit provides performance criteria, knowledge and skills required to follow machine, safety and organizational guidelines in textile sector.

Scope

The scope covers the following :

- Maintaining the work area, tools and machines
- Greening and energy conservation in textile sector
- Health, safety and response to emergencies at textile sector
- Organizational standards and policies

Elements and Performance Criteria

Maintaining the work area, tools and machines

To be competent, the user/individual on the job must be able to:

PC1. handle materials, machinery, equipment and tools as per standard procedure

PC2. use appropriate material handling equipment and tools as per standard procedure

PC3. keep the equipment, machine and work area clean using appropriate cleaning tools as per standard procedure

PC4. undertake minor routine maintenance of equipment and tools as per standard maintenance procedure

PC5. maintain record for defective and unsafe equipment and tools

PC6. verify that machine guards are in place as per standard specifications

PC7. follow specified ergonomics for the assigned job role in textile sector

PC8. collect and store worn-out spare parts at specified location

PC9. report the condition of worn out parts as per standard procedure

Greening and energy conservation in textile sector

To be competent, the user/individual on the job must be able to:

PC10. segregate wastes such as recyclable, non-recyclable, hazardous as per standard protocol

PC11. optimize usage of material and resources including water, electricity in various tasks

PC12. switch off the machines and lights when not in use

Health, safety and response to emergencies at textile sector

To be competent, the user/individual on the job must be able to:

PC13. use Personal Protective Equipment (PPEs) like body protector, ear plugs, nose mask, head cap, etc. as per guidelines

PC14. identify abnormal sounds emanating from faulty or worn out machine parts and take appropriate action

PC15. avoid dependency on any type of intoxicants

PC16. maintain social distance as per the instruction at workplace

PC17. report hazardous material to superiors at workplace

PC18. use the various appropriate fire extinguishers on different types of fires correctly

PC19. follow the specified steps in case of electricity failure

PC20. lift heavy objects using correct lifting procedures

PC21. recall emergency exits, safe spots, etc. of workplace

PC22. practice mock drills and evacuation procedures organized by industry

PC23. assist others to reach to safe spots in emergency situations

PC24. provide basic first aid for injury to peers and report to superiors

PC25. interpret different signs, alarms and take action appropriately

PC26. follow the guidelines while working in hazards atmosphere

PC27. assist in designing the safety plans with peers and superiors

PC28. follow the approved safety plans at workplace

Organizational standards and policies

To be competent, the user/individual on the job must be able to:

PC29. perform assigned duties as per organization's protocol within scheduled time period

PC30. follow organization policies, quality standards, rules and regulations for working in textile sector

PC31. motivate colleagues to follow operational guidelines of organization

PC32. wear specified uniform and follow etiquette as per standard guidelines for the textile sector

PC33. maintain hygienic working atmosphere as per protocol of the textile sector

PC34. submit lost and found articles as per standard protocol

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational standard procedures, quality standards, rules, codes, policies and safety standards in the textile sector

KU2. different type of tools and equipment used in textile sub- sector and their specifications and operating procedures

KU3. safe handling procedure of tools and equipment

KU4. the importance of displays and written instructions for the allocated machines

KU5. dos and donts specific to the assigned work responsibilities

KU6. protocol for minimizing the wastage of material, effort and time

KU7. organization's formats and procedures for reporting production, defects, faults, material/tool requisition and quality parameters and task completed for assigned job

KU8. schedule for cleaning and waste collection for the assigned job role

KU9. importance and standard procedure for disposal of soft, hard, non-hazardous and hazardous wastes and materials

KU10. available types of material handling equipment and handling methods used in the textile sector

KU11. hazards of unsafe workplace conditions and procedures in the textile industry and methods to avoid hazards

KU12. various types of fire extinguishers

KU13. importance of stable mental condition in case of emergency

KU14. correct work posture and importance of ergonomics for the assigned job role

KU15. organizational quality systems like quality circle, 5S, ISO, SA, etc. followed in the textile sector

KU16. importance of following work wear standards, behavioral protocols and etiquette in the textile sector

KU17. importance of energy conservation through proper maintenance schedule in the textile sector

KU18. procedures and formats for reporting lost and found material

KU19. different types of alarms and their significance

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and comprehend policies in notice boards displayed in the workplace

GS2. minimize the resource consumption for the assigned task

GS3. solve basic arithmetic calculations related to assigned job role

GS4. recognize and differentiate colors of materials used in textile sector

GS5. lift specified materials for the allotted task using prescribed ergonomic position

GS6. exhibit motor skill required for the allotted task

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintaining the work area, tools and machines	**10**	**10**	**-**	**6**
PC1. handle materials, machinery, equipment and tools as per standard procedure	-	-	-	-
PC2. use appropriate material handling equipment and tools as per standard procedure	-	-	-	-
PC3. keep the equipment, machine and work area clean using appropriate cleaning tools as per standard procedure	-	-	-	-
PC4. undertake minor routine maintenance of equipment and tools as per standard maintenance procedure	-	-	-	-
PC5. maintain record for defective and unsafe equipment and tools	-	-	-	-
PC6. verify that machine guards are in place as per standard specifications	-	-	-	-
PC7. follow specified ergonomics for the assigned job role in textile sector	-	-	-	-
PC8. collect and store worn-out spare parts at specified location	-	-	-	-
PC9. report the condition of worn out parts as per standard procedure	-	-	-	-
Greening and energy conservation in textile sector	**7**	**10**	**-**	**6**
PC10. segregate wastes such as recyclable, non-recyclable, hazardous as per standard protocol	-	-	-	-
PC11. optimize usage of material and resources including water, electricity in various tasks	-	-	-	-
PC12. switch off the machines and lights when not in use	-	-	-	-
Health, safety and response to emergencies at textile sector	**32**	**40**	**-**	**28**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. use Personal Protective Equipment (PPEs) like body protector, ear plugs, nose mask, head cap, etc. as per guidelines	-	-	-	-
PC14. identify abnormal sounds emanating from faulty or worn out machine parts and take appropriate action	-	-	-	-
PC15. avoid dependency on any type of intoxicants	-	-	-	-
PC16. maintain social distance as per the instruction at workplace	-	-	-	-
PC17. report hazardous material to superiors at workplace	-	-	-	-
PC18. use the various appropriate fire extinguishers on different types of fires correctly	-	-	-	-
PC19. follow the specified steps in case of electricity failure	-	-	-	-
PC20. lift heavy objects using correct lifting procedures	-	-	-	-
PC21. recall emergency exits, safe spots, etc. of workplace	-	-	-	-
PC22. practice mock drills and evacuation procedures organized by industry	-	-	-	-
PC23. assist others to reach to safe spots in emergency situations	-	-	-	-
PC24. provide basic first aid for injury to peers and report to superiors	-	-	-	-
PC25. interpret different signs, alarms and take action appropriately	-	-	-	-
PC26. follow the guidelines while working in hazards atmosphere	-	-	-	-
PC27. assist in designing the safety plans with peers and superiors	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC28. follow the approved safety plans at workplace	-	-	-	-
Organizational standards and policies	**16**	**20**	**-**	**10**
PC29. perform assigned duties as per organization's protocol within scheduled time period	-	-	-	-
PC30. follow organization policies, quality standards, rules and regulations for working in textile sector	-	-	-	-
PC31. motivate colleagues to follow operational guidelines of organization	-	-	-	-
PC32. wear specified uniform and follow etiquette as per standard guidelines for the textile sector	-	-	-	-
PC33. maintain hygienic working atmosphere as per protocol of the textile sector	-	-	-	-
PC34. submit lost and found articles as per standard protocol	-	-	-	-
NOS Total	**65**	**80**	**-**	**50**

National Occupational Standards (NOS) Parameters

NOS Code	TSC/N9015
NOS Name	Follow machine, safety, and organizational guidelines in textile sector
Sector	Textile
Sub-Sector	Generic - Textiles Handloom
Occupation	Generic - Textiles & Handloom
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	27/01/2022
Next Review Date	31/03/2025
NSQC Clearance Date	17/11/2022

TSC/N9016: Follow teamwork, adaptability, and communication guidelines in textile sector

Description

This unit provides performance criteria, knowledge and skills required to follow team work, communication and adaptability in textile sector

Scope

The scope covers the following :

- Teamwork and communication
- Adaptability

Elements and Performance Criteria

Teamwork, trust and communication

To be competent, the user/individual on the job must be able to:

PC1. contribute to create a positive work environment in the team

PC2. carry out tasks as per instructions received from superiors

PC3. contribute to team work as per allocated responsibility to complete the task by using appropriate tools and methods

PC4. build trust with team mates and superiors

PC5. implement the ideas after superior's approval at work place

PC6. communicate clearly with the team members as per standard protocol

PC7. use suggested hand signs, vocal sound signals to convey the information in the production area

PC8. listen effectively to the ideas and concerns of the peers

PC9. use correct and respectful terms while communicating as per industry policy

PC10. express views proactively and effectively

PC11. make efforts to resolve difference of opinion with superiors and team members

PC12. report to superior for problems identified in assigned duty

PC13. report the daily performance to superior in prescribed manner and formats

Adaptability

To be competent, the user/individual on the job must be able to:

PC14. adapt to flexible work environment for the assigned task

PC15. adapt to work with various members of different ethnicity, gender and PwD without biases

PC16. consider opinions of colleagues, fitters, superiors for the assigned task

PC17. plan the work-routine within the limits of the responsibility

PC18. adopt new ideas after due approval from superior for improving the productivity

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. importance of teamwork and discipline

KU2. limits and responsibilities for the assigned duties in the textile sector

KU3. possible conflicts in the assigned job role and methods to resolve the same

KU4. importance of teamwork, group discussions and healthy work environment

KU5. importance of reporting as per the standard protocol

KU6. hierarchy of communication and communication etiquettes in the textile sector

KU7. protocol for communication with different ethnicity, gender and PwD

KU8. report and grievance submission formats

KU9. importance of hand, vocal sound signals in the textile sector

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and comprehend written instructions

GS2. listen effectivity for the instructions

GS3. coordinate with team mates for the allotted tasks

GS4. use and comprehend prescribed voice and hand signals in the textile production area

GS5. fill forms and prepare reports such as production report, material requisition forms, leave application, etc. as per standard formats

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Teamwork, trust and communication	**10**	**15**	**-**	**5**
PC1. contribute to create a positive work environment in the team	-	-	-	-
PC2. carry out tasks as per instructions received from superiors	-	-	-	-
PC3. contribute to team work as per allocated responsibility to complete the task by using appropriate tools and methods	-	-	-	-
PC4. build trust with team mates and superiors	-	-	-	-
PC5. implement the ideas after superior's approval at work place	-	-	-	-
PC6. communicate clearly with the team members as per standard protocol	-	-	-	-
PC7. use suggested hand signs, vocal sound signals to convey the information in the production area	-	-	-	-
PC8. listen effectively to the ideas and concerns of the peers	-	-	-	-
PC9. use correct and respectful terms while communicating as per industry policy	-	-	-	-
PC10. express views proactively and effectively	-	-	-	-
PC11. make efforts to resolve difference of opinion with superiors and team members	-	-	-	-
PC12. report to superior for problems identified in assigned duty	-	-	-	-
PC13. report the daily performance to superior in prescribed manner and formats	-	-	-	-
Adaptability	**5**	**5**	**-**	**5**
PC14. adapt to flexible work environment for the assigned task	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. adapt to work with various members of different ethnicity, gender and PwD without biases	-	-	-	-
PC16. consider opinions of colleagues, fitters, superiors for the assigned task	-	-	-	-
PC17. plan the work-routine within the limits of the responsibility	-	-	-	-
PC18. adopt new ideas after due approval from superior for improving the productivity	-	-	-	-
NOS Total	**15**	**20**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	TSC/N9016
NOS Name	Follow teamwork, adaptability, and communication guidelines in textile sector
Sector	Textile
Sub-Sector	Generic - Textiles Handloom
Occupation	Generic - Textiles & Handloom
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	27/01/2022
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NSQC Clearance Date	17/11/2022

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TSC/N5223: Carryout shift change, production and quality analyse at fabric printing department

Description

This OS unit is about carryout shift change, production and quality analyse at fabric printing department by following standard workplace procedures.

Scope

The scope covers the following :

- Taking charge of shift from Printing machine operator
- Handing over shift to Printing machine operator
- Carry out preparatory activities for operations in the machine
- Preparation of Print paste
- Operate the machine for specified tasks as per work order
- Clean the machine on a regular basis and carryout preventive maintenance activities
- Cutting the sample after dryer
- Checking the sample with the standard

Elements and Performance Criteria

Taking charge of shift from Printing machine operator

To be competent, the user/individual on the job must be able to:

PC1.   come at least 10 - 15 minutes earlier to the work place

PC2.   bring the necessary operational tools to the department

PC3.   meet the previous shift Printing machine operator and discuss with him/ her regarding the issues faced by them with respect to the quality ,production, spare safety or any other specific instruction etc.

PC4.   understand the fabric being processed & process running on the machine

PC5.   ensure the technical details are mentioned on the job card display on the machine

PC6.   check for the availability of the spare trolley for unloading the fabric

PC7.   check the next batch to be processed is ready near the machine

PC8.   ensure the required dyes & chemicals are already weighed & prepared

PC9.   check the cleanliness of the machines & other work areas

PC10.   question the previous shift operator for any deviation in the above and should bring the same to the knowledge of his/ her shift superior as well as that of the previous shift.

PC11.   take over the shift from the outgoing operator in a proper manner

Handing over shift to Printing machine operator

To be competent, the user/individual on the job must be able to:

PC12.   ensure in providing the details regarding fabric quality & the process running on the machine

PC13.   provide all relevant information regarding the stoppages or breakdown in the machine, any damage to the fabric or machine.

PC14. ensure the empty trolley is near the machine for unloading the fabric

PC15. ensure the next lot to be processed is ready near the machine already stitched & arranged properly

PC16. ensure the required dyes & chemicals for the next lot or next process are weighed & prepared

PC17. get clearance from the incoming counterpart before leaving the work spot

PC18. report to his/ her shift superiors as well as that of the incoming shift operator in case his/ her counterpart doesn't report for the incoming shift

PC19. ensure the shift has to be properly handed over to the incoming shift operator

PC20. report to his/ her shift superior about the quality / production / safety issues/ any other issue faced in his/ her shift and leave the department only after getting concurrence for the same from his/ her superiors

PC21. collect the wastes from waste collection bags, weigh them and transport to storage area

PC22. ensure the machine and its work place is clean

Carry out preparatory activities for operations in the machine

To be competent, the user/individual on the job must be able to:

PC23. understand the task mentioned in the work order

PC24. ensure that the machine is empty & clean

PC25. load the fabric from the batch/trolley in the center of the machine at the feeding point

PC26. ensure fabric is crease-free and lint/ dust free

PC27. place the screens on the print station/ printing head according to the colours to be printed

PC28. set the repeat according to the design to be printed

PC29. apply glue /adhesive material to the printing blanket for sticking

Preparation of Print Paste

To be competent, the user/individual on the job must be able to:

PC30. get all dyes & printing chemical / auxiliaries weighed

PC31. mix the thickener, binder & other auxiliaries first to get the required viscosity

PC32. add dyes/ pigments to the thickening paste according to the shade

PC33. filter the print paste to avoid choke up of design screen

Operate the machine for specified tasks as per work order

To be competent, the user/individual on the job must be able to:

PC34. check screen zero position on the blanket for proper fabric printing before starting to print fabric

PC35. Start the machine &adjust the squeeze pressure if registration is poor or uneven

PC36. adjust the squeeze pressure if registration is poor or uneven

PC37. maintain synchronized & continuous feeding of fabric

PC38. check for pin holes & other defects due to blockage of screen

PC39. clean the screens if machine is stopped for longer periods

Clean the machine on a regular basis and carryout preventive maintenance activities

To be competent, the user/individual on the job must be able to:

PC40. make sure the fabric is dried properly after printing

PC41. keep the machine clean at all times

PC42. follow the preventive maintenance schedule & ensure the machine is running smoothly

PC43. check that all controls are functioning properly

PC44. clean the printing blanket before changing to new design or new matching

Cutting the sample after dryer

To be competent, the user/individual on the job must be able to:

PC45. cut the sample after the dryer

PC46. fix/ cure the printed sample in a steamer or oven

PC47. wash the sample after curing & dry it

Checking the sample with the standard

To be competent, the user/individual on the job must be able to:

PC48. compare the sample with standard as mentioned in the work order

PC49. take the sample to supervisor if its not matching to standard

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance of quality & productivity

KU2. various defects in the fabric due to yarn, weaving or processing

KU3. reasons for various defects in the fabric due to processing & their remedy

KU4. process flow in a processing unit

KU5. material flow in a processing unit

KU6. functions of various controls of the machine

KU7. importance of material handling and types of material handling equipment being used

KU8. importance of cleanliness at workplace

KU9. functions and methodology for operating different material handling equipment

KU10. the functions of various alarm signals

KU11. guidelines for operating the machine

KU12. safety procedures to be followed while operating the machine

KU13. standard operating procedure (SOP) and regulations in processing unit

KU14. safe working practices to be adopted in processing unit

KU15. importance of discipline & punctuality

KU16. importance of take over & handover in achieving quality & productivity

KU17. types of fiber, yarn and fabric

KU18. process flow & types of print paste used

KU19. to feed enough fabric in the scray / j box for non- stop running of machine

KU20. Knowledge about printing from lighter colour first to dark colour in the last head

KU21. viscosity & quantity of glue to be applied

KU22. about fluidity/ viscosity of print paste

KU23. functioning of various control of machine

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write clear and short sentences
GS2. comprehend written instructions
GS3. communicate with supervisor appropriately
GS4. apply good attention to detail

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Taking charge of shift from Printing machine operator	**9**	**10**	**-**	**11**
PC1. come at least 10 - 15 minutes earlier to the work place	-	-	-	-
PC2. bring the necessary operational tools to the department	-	-	-	-
PC3. meet the previous shift Printing machine operator and discuss with him/ her regarding the issues faced by them with respect to the quality ,production, spare safety or any other specific instruction etc.	-	-	-	-
PC4. understand the fabric being processed & process running on the machine	-	-	-	-
PC5. ensure the technical details are mentioned on the job card display on the machine	-	-	-	-
PC6. check for the availability of the spare trolley for unloading the fabric	-	-	-	-
PC7. check the next batch to be processed is ready near the machine	-	-	-	-
PC8. ensure the required dyes & chemicals are already weighed & prepared	-	-	-	-
PC9. check the cleanliness of the machines & other work areas	-	-	-	-
PC10. question the previous shift operator for any deviation in the above and should bring the same to the knowledge of his/ her shift superior as well as that of the previous shift.	-	-	-	-
PC11. take over the shift from the outgoing operator in a proper manner	-	-	-	-
Handing over shift to Printing machine operator	**9**	**10**	**-**	**11**
PC12. ensure in providing the details regarding fabric quality & the process running on the machine	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. provide all relevant information regarding the stoppages or breakdown in the machine, any damage to the fabric or machine.	-	-	-	-
PC14. ensure the empty trolley is near the machine for unloading the fabric	-	-	-	-
PC15. ensure the next lot to be processed is ready near the machine already stitched & arranged properly	-	-	-	-
PC16. ensure the required dyes & chemicals for the next lot or next process are weighed & prepared	-	-	-	-
PC17. get clearance from the incoming counterpart before leaving the work spot	-	-	-	-
PC18. report to his/ her shift superiors as well as that of the incoming shift operator in case his/ her counterpart doesn't report for the incoming shift	-	-	-	-
PC19. ensure the shift has to be properly handed over to the incoming shift operator	-	-	-	-
PC20. report to his/ her shift superior about the quality / production / safety issues/ any other issue faced in his/ her shift and leave the department only after getting concurrence for the same from his/ her superiors	-	-	-	-
PC21. collect the wastes from waste collection bags, weigh them and transport to storage area	-	-	-	-
PC22. ensure the machine and its work place is clean	-	-	-	-
Carry out preparatory activities for operations in the machine	**52**	**110**	**-**	**5**
PC23. understand the task mentioned in the work order	-	-	-	-
PC24. ensure that the machine is empty & clean	-	-	-	-
PC25. load the fabric from the batch/trolley in the center of the machine at the feeding point	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC26. ensure fabric is crease-free and lint/ dust free	-	-	-	-
PC27. place the screens on the print station/ printing head according to the colours to be printed	-	-	-	-
PC28. set the repeat according to the design to be printed	-	-	-	-
PC29. apply glue /adhesive material to the printing blanket for sticking	-	-	-	-
Preparation of Print Paste	**50**	**110**	**-**	**5**
PC30. get all dyes & printing chemical / auxiliaries weighed	-	-	-	-
PC31. mix the thickener, binder & other auxiliaries first to get the required viscosity	-	-	-	-
PC32. add dyes/ pigments to the thickening paste according to the shade	-	-	-	-
PC33. filter the print paste to avoid choke up of design screen	-	-	-	-
Operate the machine for specified tasks as per work order	**20**	**44**	**-**	**5**
PC34. check screen zero position on the blanket for proper fabric printing before starting to print fabric	-	-	-	-
PC35. Start the machine &adjust the squeeze pressure if registration is poor or uneven	-	-	-	-
PC36. adjust the squeeze pressure if registration is poor or uneven	-	-	-	-
PC37. maintain synchronized & continuous feeding of fabric	-	-	-	-
PC38. check for pin holes & other defects due to blockage of screen	-	-	-	-
PC39. clean the screens if machine is stopped for longer periods	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Clean the machine on a regular basis and carryout preventive maintenance activities	**20**	**42**	**-**	**5**
PC40. make sure the fabric is dried properly after printing	-	-	-	-
PC41. keep the machine clean at all times	-	-	-	-
PC42. follow the preventive maintenance schedule & ensure the machine is running smoothly	-	-	-	-
PC43. check that all controls are functioning properly	-	-	-	-
PC44. clean the printing blanket before changing to new design or new matching	-	-	-	-
Cutting the sample after dryer	**20**	**42**	**-**	**5**
PC45. cut the sample after the dryer	-	-	-	-
PC46. fix/ cure the printed sample in a steamer or oven	-	-	-	-
PC47. wash the sample after curing & dry it	-	-	-	-
Checking the sample with the standard	**20**	**42**	**-**	**3**
PC48. compare the sample with standard as mentioned in the work order	-	-	-	-
PC49. take the sample to supervisor if its not matching to standard	-	-	-	-
NOS Total	**200**	**410**	**-**	**50**

National Occupational Standards (NOS) Parameters

NOS Code	TSC/N5223
NOS Name	Carryout shift change, production and quality analyse at fabric printing department
Sector	Textile
Sub-Sector	Processing - Textiles
Occupation	Dyeing & Printing
NSQF Level	2
Credits	TBD
Version	1.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	17/11/2022

DGT/VSQ/N0101: Employability Skills (30 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1.   understand the significance of employability skills in meeting the job requirements

Constitutional values – Citizenship

To be competent, the user/individual on the job must be able to:

PC2.   identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

PC3.   explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

To be competent, the user/individual on the job must be able to:

PC4.   speak with others using some basic English phrases or sentences

Communication Skills

To be competent, the user/individual on the job must be able to:

PC5.   follow good manners while communicating with others

PC6.   work with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC7.   communicate and behave appropriately with all genders and PwD

PC8.   report any issues related to sexual harassment

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

PC9.   use various financial products and services safely and securely

PC10.   calculate income, expenses, savings etc.

PC11.   approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC12.   operate digital devices and use its features and applications securely and safely

PC13.   use internet and social media platforms securely and safely

Entrepreneurship

To be competent, the user/individual on the job must be able to:

PC14.   identify and assess opportunities for potential business

PC15.   identify sources for arranging money and associated financial and legal challenges

Customer Service

To be competent, the user/individual on the job must be able to:

PC16.   identify different types of customers

PC17.   identify customer needs and address them appropriately

PC18.   follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC19.   create a basic biodata

PC20.   search for suitable jobs and apply

PC21.   identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1.   need for employability skills

KU2.   various constitutional and personal values

KU3.   different environmentally sustainable practices and their importance

KU4.   Twenty first (21st) century skills and their importance

KU5.   how to use basic spoken English language

KU6.   Do and dont of effective communication

KU7.   inclusivity and its importance

KU8.   different types of disabilities and appropriate communication and behaviour towards PwD

KU9.   different types of financial products and services

KU10. how to compute income and expenses

KU11. importance of maintaining safety and security in financial transactions

KU12. different legal rights and laws

KU13. how to operate digital devices and applications safely and securely

KU14. ways to identify business opportunities

KU15. types of customers and their needs

KU16. how to apply for a job and prepare for an interview

KU17. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. communicate effectively using appropriate language

GS2. behave politely and appropriately with all

GS3. perform basic calculations

GS4. solve problems effectively

GS5. be careful and attentive at work

GS6. use time effectively

GS7. maintain hygiene and sanitisation to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	1	1	-	-
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
Constitutional values – Citizenship	1	1	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	1	3	-	-
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
Basic English Skills	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
Communication Skills	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
Diversity & Inclusion	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
Financial and Legal Literacy	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. calculate income, expenses, savings etc.	-	-	-	-
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
Essential Digital Skills	**4**	**6**	**-**	**-**
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
Entrepreneurship	**3**	**5**	**-**	**-**
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
Customer Service	**2**	**2**	**-**	**-**
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**1**	**3**	**-**	**-**
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	NA
Next Review Date	30/12/2024
NSQC Clearance Date	30/12/2021

TSC/N5224: Carryout design preparation and quality analyse of the exposed design screen for fabric printing

Description

This OS unit is about carryout design preparation and quality analyse of the exposed design screen for fabric printing by following the standard workplace condition.

Scope

The scope covers the following :

- Carry out preparatory activities for screen making
- Operate the machine for the specified task as per work order
- Clean the machine on a regular basis and carryout preventive maintenance activities
- Checking the quality of exposed design screen

Elements and Performance Criteria

Carry out preparatory activities for screen making

To be competent, the user/individual on the job must be able to:

PC1. understand the task mentioned in the work order

PC2. check the art work or the design film to be exposed

PC3. check the design repeat

PC4. check the no. of colours to be printed

PC5. clean the screen frames

PC6. select the right mesh size depending upon the design to be printed

PC7. cut the required no. of mesh fabric as per size of screen

Operate the machine for the specified task as per work order

To be competent, the user/individual on the job must be able to:

PC8. stretch the mesh on all frames evenly & leave it for few hours

PC9. re stretch the mesh again & stick it to the frame with glue

PC10. degrease the screen thoroughly using screen degreaser

PC11. apply solvent resistant direct emulsion evenly to the screen

PC12. dry the screen completely before exposure

PC13. maintain optimum drying conditions in the drying area

PC14. ensure the drying area is warm & dust free

PC15. expose the screen using a light exposure unit

PC16. wash the exposed screen thoroughly

PC17. dry the screen completely

Clean the machine on a regular basis and carryout preventive maintenance activities

To be competent, the user/individual on the job must be able to:

PC18. keep the exposing machine & other equipment clean at all times

![TSC Logo]

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Qualification Pack

![NSDC Logo]
Transforming the skill landscape

PC19. follow the preventive maintenance schedule & ensure the machine is running smoothly

PC20. check that all controls are functioning properly

PC21. replace the exposing unit bulbs when its due

PC22. keep the exposing & drying area dust free

PC23. store the screen in the rack for repeat orders

Checking the quality of exposed design screen

To be competent, the user/individual on the job must be able to:

PC24. examine the screen under white light for pinhole & other defects

PC25. do the touching of any pin holes or other defects

PC26. mask the sides with tape to avoid wastage of print paste

PC27. fix the end rings to the screen in case of Rotary screen

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard operating procedure (SOP) and regulations in a processing unit

KU2. safe working practices to be adopted in processing unit

KU3. quality systems and other processes practiced in the processing unit

KU4. reporting to the supervisor or higher authority in case of emergency

KU5. color coding adopted for different products in the processing unit

KU6. importance of quality & productivity

KU7. various defects in the fabric due to yarn, weaving or processing

KU8. reasons for various defects in the fabric due to printing & their remedy

KU9. process and material flow in a processing unit

KU10. safety procedures to be followed while operating the machine

KU11. personal hygiene and duty of care

KU12. limits of your own responsibility

KU13. steps involved in handling of degreasing, coating & hardening chemicals

KU14. use of thermometer & hygrometer to monitor drying conditions

KU15. use of filtered warm & dry air

KU16. steps involved in repairing of printing screen

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. write clear and short sentences

GS2. read and comprehend written instructions

GS3. communicate with supervisor appropriately

GS4. apply good attention to detail

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Carry out preparatory activities for screen making	**24**	**48**	**-**	**5**
PC1. understand the task mentioned in the work order	-	-	-	-
PC2. check the art work or the design film to be exposed	-	-	-	-
PC3. check the design repeat	-	-	-	-
PC4. check the no. of colours to be printed	-	-	-	-
PC5. clean the screen frames	-	-	-	-
PC6. select the right mesh size depending upon the design to be printed	-	-	-	-
PC7. cut the required no. of mesh fabric as per size of screen	-	-	-	-
Operate the machine for the specified task as per work order	**22**	**48**	**-**	**5**
PC8. stretch the mesh on all frames evenly & leave it for few hours	-	-	-	-
PC9. re stretch the mesh again & stick it to the frame with glue	-	-	-	-
PC10. degrease the screen thoroughly using screen degreaser	-	-	-	-
PC11. apply solvent resistant direct emulsion evenly to the screen	-	-	-	-
PC12. dry the screen completely before exposure	-	-	-	-
PC13. maintain optimum drying conditions in the drying area	-	-	-	-
PC14. ensure the drying area is warm & dust free	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. expose the screen using a light exposure unit	-	-	-	-
PC16. wash the exposed screen thoroughly	-	-	-	-
PC17. dry the screen completely	-	-	-	-
Clean the machine on a regular basis and carryout preventive maintenance activities	**22**	**48**	**-**	**5**
PC18. keep the exposing machine & other equipment clean at all times	-	-	-	-
PC19. follow the preventive maintenance schedule & ensure the machine is running smoothly	-	-	-	-
PC20. check that all controls are functioning properly	-	-	-	-
PC21. replace the exposing unit bulbs when its due	-	-	-	-
PC22. keep the exposing & drying area dust free	-	-	-	-
PC23. store the screen in the rack for repeat orders	-	-	-	-
Checking the quality of exposed design screen	**22**	**46**	**-**	**5**
PC24. examine the screen under white light for pinhole & other defects	-	-	-	-
PC25. do the touching of any pin holes or other defects	-	-	-	-
PC26. mask the sides with tape to avoid wastage of print paste	-	-	-	-
PC27. fix the end rings to the screen in case of Rotary screen	-	-	-	-
NOS Total	**90**	**190**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	TSC/N5224
NOS Name	Carryout design preparation and quality analyse of the exposed design screen for fabric printing
Sector	Textile
Sub-Sector	Processing - Textiles
Occupation	Dyeing & Printing
NSQF Level	2
Credits	TBD
Version	1.0
Last Reviewed Date	NA
Next Review Date	31/03/2025
NSQC Clearance Date	17/11/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1.Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 50

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
TSC/N9015.Follow machine, safety, and organizational guidelines in textile sector	65	80	-	50	195	20
TSC/N9016.Follow teamwork, adaptability, and communication guidelines in textile sector	15	20	-	10	45	5
TSC/N5223.Carryout shift change, production and quality analyse at fabric printing department	200	410	-	50	660	70
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	0	0	50	5
Total	**300**	**540**	**0**	**110**	**950**	**100**

Optional: 1 Printing Screen Making

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
TSC/N5224.Carryout design preparation and quality analyse of the exposed design screen for fabric printing	90	190	-	20	300	30
Total	**90**	**190**	**-**	**20**	**300**	**30**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

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Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.