



सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
DEVELOPMENT COMMISSIONER
MINISTRY OF MICRO, SMALL & MEDIUM
ENTERPRISES

MSME TECHNOLOGY CENTRE



MODEL CURRICULUM



Qualification Name:

SPORTS APPAREL MAKER

Qualification Code:

Version: 1.0

NSQF Level: 3

Model Curriculum Version: 1.0

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

Govt. of India

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NOS / MODULE**NOS /Module: Introduction to Sports Apparel, Tools/equips. and safety & security at workplace****NOS /Module Code: MSME/SAM/01 & Version 1.0****Outcomes:**

After completion of course Student should be able to:

- Knowledge of different type of fabrics, types of fabric for making different types of Sports Apparel as per their use
- Familiarizing with the process of Sports Apparel making- Designing, Selection of Material, Cutting, Sewing and Finishing
- Acquaint with different types of machines, their attachments, adjustments, maintenance procedure.
- Handle materials, machinery, equipment and tools safely and correctly to maintain a clean and hazard free working area
- Functions in accordance with organizational standards, procedures, policies, rules and regulations.

Theory Hours: 60**Practical Hours: NA****Viva Hours: NA****Theory Marks: - 100****Practical Marks: - NA****Viva Marks: - NA**

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	TH hours	TH Marks
UNIT-I	Introduction and Orientation of Sports Apparel	<ul style="list-style-type: none"> • Introduction to Apparel Sector in India • Knowledge about various types of Sports Apparel • Familiarizing with the process of sports Apparel manufacturing • Key responsibilities of Sports Apparel maker. 	<ul style="list-style-type: none"> • Introduction to Sewing and Apparel Sector in India. • Sportswear manufacturing companies and suppliers • Role and Responsibilities of Sports Apparel maker. • Knowledge about various types of Sports Apparel • Process of sports Apparel manufacturing 	15	25
UNIT-II	Know about Machines, Tools & equipment's	<ul style="list-style-type: none"> • Principles of operation of special purpose/basic machines: Lockstitch, chainstitch, overlock, blind stich, button hole, and button stitching machines • Understanding Machine adjustments and effect of these adjustments. • acquaint the students with different types of machines, their attachments, adjustments and maintenance procedure. • Knowledge about other tools and equipment's like Ironing press, Design 	<ul style="list-style-type: none"> • Know about different types of sewing machines used in Sports Apparel making and their operation. • Anatomy (parts) of sewing machine. • General Stitching defects and their remedies through machine adjustments • Different types of machine attachments, their adjustments and maintenance. • Other tools and equipments used in Sports Apparel manufacturing. • Other Tools and equipments used in pattern making, designing, cutting, etc. 	15	25

		Pattern Template, Cutting measuring marking tools etc. Dummies for checking fittings.			
UNIT-III	Maintain the work area, tools and machines	<ul style="list-style-type: none"> Know about maintenance of Machines: Necessity for preventive, periodic and correcting maintenance. Handle materials, machinery, equipment and tools safely and correctly to maintain a clean and hazard free working area. Use materials efficiently to minimize wastage and dispose-off the waste safely at the designated location. Carry out running maintenance and/or cleaning within one's responsibility and agreed schedules. Handle tools and equipment's like sewing machines, scissors, shears, etc. safely and securely & Install basic safety signage in the shop for customer knowledge as well. Report any unsafe or damaged equipment and other dangerous occurrences to the authorized personnel. Ensure that the correct machine guards are in place. Use cleaning equipment and methods appropriate for the work to be carried out. 	<ul style="list-style-type: none"> Basic Maintenance of sewing machines. Carry out Basic Maintenance of single needle sewing Machine. Cleaning the Tension Assembly Steps in lubrication of different parts of the machine. Cleaning the Bobbin Area. Check that the right machine safety guards are in place as per the need. Troubleshoot Common Machine problems. <ul style="list-style-type: none"> Incorrect needles Incorrect machine settings for the fabric Fabric finishes. Basic Sewing Machine Safety Tips Management of undesirable and unwanted material or substances. Work in a comfortable position with the correct posture. Usage and Storage of cleaning equipment according to schedules and limits of responsibility. Safety Signs at Workplace 	15	25
UNIT-IV	Comply with industry, and organizational requirements	<ul style="list-style-type: none"> Carry out work functions in accordance with organizational standards, procedures, policies, rules and regulations. Apply and follow these policies and procedures within your work practices and inculcate sustainable consumption practices. Actively get involved in improving the performance of the organization in line with their own role and 	<ul style="list-style-type: none"> Understand about the basic norms of an organization. Why Code of Ethics is Required. Aspects that impact an organization's policies, including legislative and regulatory requirements, organizational best practices, and the market demands. Tailoring Shop & Work Environment Compliance Non-discrimination Compliance. India Complying with International Standards on Child Labour. 	15	25

		<p>responsibilities and support adaptation to more environmentally friendly processes.</p> <ul style="list-style-type: none"> Undertake first-aid, fire-fighting and emergency response training. Also engage & participate to end gender discrimination & communicate in gender inclusive terms All copies of design work to be maintained in files as well for future reference 	<ul style="list-style-type: none"> Understand the policies relate to the workforce, the methodologies of operations and the technologies within the corporation. Undertake first aid, fire-fighting and emergency response training How to maintained and store he confidential data like designs, brandings, etc. 		
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NOS / MODULE

NOS /Module: Fabric Selection, Measurement, Designing & Pattern Making

NOS /Module Code: MSME/SAM/02 & Version 1.0

Outcomes:

After completion of course Student should be able to:

- Important aspects in fabric selection of Sports Apparel manufacturing
- Methods of taking measurements on the body.
- Taking measurements of over garments.
- Drafting, pattern making, and layout of various type of Sports Apparel like joggers, Shorts, Tops and Tees, etc.
- Importance of designing through computers
- Use of CAD in drafting Sports Apparel and its accessories
- Create Bodice Block Set & Patterns and construct samples of Design Details

Theory Hours: 30

Practical Hours: 60

Viva Hours: NA

Theory Marks: - NA

Practical Marks: - 80

Viva Marks: - 20

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	TH Hours	PR Hours	PR Marks
UNIT-I	Fabric Selection, Measurement by Charts/ Anthropometry	<ul style="list-style-type: none"> • Important aspects in fabric selection of Sports Apparel manufacturing • Understanding the sizing chart with measurements corresponding to different sizes (XS, S, M, L, etc.) • Methods of taking measurements on the body. • Taking measurements of over garments. • Drafting, pattern making, and layout of various type of Sports Apparel like joggers, Shorts, Tops and Tees, etc. 	<ul style="list-style-type: none"> • Identify the fabric for Sports Apparel. • Selection of Proper fabric • Identify the different size chart comparison tables. • Understand the difference between US, UK, European and Australian size charts • Using a Measuring Tape and Understanding Fractions • Details on How to Take Measurements on humans. • How to Take Measurement of Basic Garment. 	15	30	40

		<ul style="list-style-type: none"> Practice of developing dress pattern from Draping Technique. Sequence of recording measurements. 				
UNIT-II	Draw and Design Sports Apparel and accessories using CAD.	<ul style="list-style-type: none"> Introduction and importance of designing through computers Use of CAD in drafting Sports Apparel and its accessories. Demonstrate and apply different types of commands and tools. Create Bodice Block Set & Patterns and construct samples of Design Details. Illustrate and Draw Garment & Accessories design with the help of CAD. Take body measurement or measurement of the available sample physically or Digitally make available the pattern with the help of CAD Software. 	<ul style="list-style-type: none"> Understand the use of all CAD tools and commands. Practice the different tools in the software and know their uses. Make out basic patterns as per bodice size / specification chart. Pattern grading, marking on patterns by using CAD Software. Pattern Development from Drape and Measurements. Pattern grading and marking. 	15	30	40

NOS / MODULE

NOS /Module: Drafting, layering and Cutting the Fabric

NOS /Module Code: MSME/SAM/03 & Version 1.0

Outcomes:

After completion of course, Student should be able to

- Body measurement or measurement of the available sample physically or Digitally
- Pattern making with the help of CAD Software.
- Layering and spreading of knitted fabric
- Selection of the appropriate tools & materials for cutting
- Cutting of the various garment components with precision with the help of Pattern Paper

Theory Hours: NA

Practical Hours: 60

Viva Hours: NA

Theory Marks: - NA

Practical Marks: - 80

Viva Marks: - 20

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	PR hours	PR Marks
UNIT-I	Drafting, Layering and Spreading	<ul style="list-style-type: none"> Identify and differentiate between different kinds of wear forms (Sports). Lay the fabric on the table in accordance with fabric grain line, designs, checks or Plains, etc. 	<ul style="list-style-type: none"> Equipment and measurement required for drafting Drafting of different components of Sports T-Shirt. Drafting of different components of Polo Shirts. Drafting of different components of Lower Pants. 	30	40

		<ul style="list-style-type: none"> • Making markers on the topmost surface of fabric with the help of Patterns. • Place the cut components of paper pattern for cutting the cloth. • Selection of the appropriate tools & materials for cutting. • Process of spreading of fabric in layers (Layering) for mass production. • Measure and confirm the length and width of the material/ fabric and ensure the fabric/material wastage is minimum before starting to cut. 	<ul style="list-style-type: none"> • Drafting of different components of Boxer. • Relaxation of fabric • Cut order planning • Fabric spreading • Prepare the fabric for Layering • Planning and making markers 		
UNIT-II	Cutting of Fabric	<ul style="list-style-type: none"> • Planning the cut order with respect to garment design, numbers of pattern, pattern components, fabric length & thickness and machine available for cutting etc. • Cutting of the various garment components with precision with the help of Pattern Paper • Organize cut components in a suitable bundle tied together to ensure there is no mix-up. • Process of cutting the layers of fabric systematically with cutting machine. • Measures to be taken in layering and cutting of the fabric. • Inspecting the cutting quality and standard of all these cut components. 	<ul style="list-style-type: none"> • Shorting the Components with respect to size and colour. • Cutting of Knitted fabric/net fabric • Cutting of different components of Sports T-Shirt. • Cutting of different components of Polo Shirts. • Cutting of different components of Lower Pants. • Cutting of different components of Boxer. • Inspecting the fabric for Spreading and cutting defects 	30	40

NOS / MODULE

NOS /Module: Stitching activities of Sports Apparel

NOS /Module Code: MSME/SAM/04 & Version 1.0

Outcomes:

After completion of course Student should be able to

- Check that the materials to be used are free from faults
- Check whether the marking and cutting of the fabric and component is done correctly as per the requirement

- Examining the specific item to identifying what type of stitching is best suited
- Setting machine controls for the materials being stitched
- Handling materials, machinery, equipment and tools safely and correctly
- Stitching the correct materials in the right sequence as required by the production specification
- Carry out hand sewing if required (kaj making, button fixing, hemming, or basic embroidery etc.)

Theory Hours: NA

Practical Hours: 120

Viva Hours: NA

Theory Marks: - NA

Practical Marks: - 80

Viva Marks: - 20

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	PR hours	PR Marks
Unit-I	Prepare for stitching operations	<ul style="list-style-type: none"> • Follow the instructions as written on the work ticket/ job card in line with the responsibilities of respective job role. • Seek information on the tasks which are not clear, simultaneously reviewing instructions with supervisor. • Check that equipment is safe and set up in readiness for use • Select the correct component parts for the style being worked on. • Check that the materials to be used are free from faults • Ensure the materials used meet the specification matching within a product and between a pair of products where applicable • Carry out test sews • Check needles and threads regularly • Check whether the marking and cutting of the fabric and component is done correctly as per the requirement. • Ensure the fabric pieces are pinned or sewn together as required, and appropriately in readiness for assembly. 	<ul style="list-style-type: none"> • Familiarize with the feed mechanisms. • Adjusting the machine, check oil, check machine setting for right stitching, right tension and tighten any loose part of machine. • Working with Correct fabric grain line for the style being worked on. • Checking materials to be used as per desired quality and defect free. • Performing a Test Run • Go to through the spec sheet and make sure the materials meet the specifications provided by the buyer • Inspection of fabric pieces before assembling. 	60	40
Unit-II	Stitch components to produce full products (Sports Apparel)	<ul style="list-style-type: none"> • Carrying out work functions in line with the job responsibilities. • Examining the specific item to identifying what type of stitching is best suited, otherwise stitching shall be done as per available instructions. • Estimating the expected length of time for the process. 	<ul style="list-style-type: none"> • Adjusting the Machine. • Different types of stitching and seam • Estimate the expected length of time for the process. • Stitching of Pockets, Plackets and Sleeves. • Stitching of Front side and Back side of dress form 	60	40

	<ul style="list-style-type: none"> • Using the correct machine, tools (e.g.: attachments, threads, needle, Scissors, Measuring tapes and rulers) and equipment. • Setting machine controls for the materials being stitched. • Handling materials, machinery, equipment and tools safely and correctly. • Cutting the thread appropriately. • Threading the needle in the machine and adjust the needle as per the requirements. • Optimizing the positioning and layout of materials to ensure a smooth and rapid throughput. • Stitching the correct materials in the right sequence as required by the production specification. • Carry out hand sewing if required (kaj making, button fixing, hemming, or basic embroidery etc.) • Passing the stitched item to the next stage in the manufacturing process after validation • Responding accordingly where stitched items do not meet production specification • Sorting and placing work to assist the next stage of production and minimize the risk of damage • Leaving work area safe and secure when work is complete • Complete documentation. 	<ul style="list-style-type: none"> • Preparation and attachment of Collar and Neckband. • Attaching of Pockets, Zippers etc • Performing kaj making, button fixing, hemming, or basic embroidery etc by hand or by machine. • Ensuring that Stitched Products for labels and trimming. • Familiarize and coordinate with the production department and its role in production • Maintain workflow and meet production target 	
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NOS / MODULE

NOS /Module: Maintaining quality during Stitching Operations

NOS /Module Code: MSME/SAM/05 & Version 1.0

Outcomes:

After completion of course, Student should be able to

- Identify faults in materials and components
- Take the necessary action when materials do not conform to company quality standards
- Identify modifiable defects and rework on them
- Inspecting stitched products against specifications and Identifying mark and place rejects in the designated locations.

- Carry out alterations as per records and requirement of customer.

Theory Hours: 20

Practical Hours: 40

Viva Hours: NA

Theory Marks: - NA

Practical Marks: - 80

Viva Marks: - 20

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	TH hours	PR hours	PR Marks
Unit-I	Contribute to achieve product quality in stitching operations	<ul style="list-style-type: none"> • Identify and use materials required based on the job card/ work ticket • Take the necessary action when materials do not conform to company quality standards • Report and replace identified faulty materials and component parts which do not meet specification • Identify modifiable defects and rework on them • Report to the responsible person when the work flow of other production areas disrupts work • Test, sort, track feed and examine work in progress. • Carry out quality checks at specified intervals according to instructions. • Apply the allowed tolerances • Identify faults in materials and components for crease, stains, damage etc. and incorrectly made-up component parts and take appropriate action for rectification • Adjust promptly to return product to specification. 	<ul style="list-style-type: none"> • Familiarize with the product quality • Coordinate with seniors and coworkers. • In-Process Inspection in Garment Industry- Inspection of stitched products against specifications & required quality standards • Identify, mark and place rejects in the designated locations. • Carry out alterations. • Sew and apply trims by hand and machine. • General principles for pattern alteration. • Proper inspection of the garments including measurement, spot, Shade variations, etc. 	10	20	40
Unit-II	Final checking after stitching, identify alteration needs and corrections for fittings	<ul style="list-style-type: none"> • Inspecting stitched products against specifications and Identifying mark and place rejects in the designated locations. • Checking fitting of final garment with respect to measurement and stitching. • Record required alteration needs and instructions on tags or labels and attach them to garments. 	<ul style="list-style-type: none"> • Standard Practice in term of garment checking in a garment factory • Know about various Garment Defects. • Quality checks for fitting and stitching defects. • Major and minor defects in final garment • acceptable quality level 	10	20	40

		<ul style="list-style-type: none">Carry out alterations as per records and requirement of customer.				
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NOS / MODULE

NOS /Module: Employability Skill

NOS /Module Code: MSME/ES/01

THEORY HOURS: 30

PRACTICAL HOURS: - NA

THEORY MARKS: 100

PRACTICAL MARKS: -

NA

Refer Standard Curriculum developed by NCVET. (https://nqr.gov.in/downloads/pdfs/30-hours_MC_Employability_Skills.pdf)