



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

MSME TECHNOLOGY CENTRE



QUALIFICATION FILE

MASTER TECHNICIAN-FOOTWEAR DESIGN AND PRODUCT DEVELOPMENT

- ☐ Short Term Training (STT) ☒ Long Term Training (LTT) ☒ Apprenticeship
- ☒ Up- skilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA
- ☐ General ☒ Multi-skill (MS) ☒ Cross Sectorial (CS) ☐ Future Skills ☐ OEM

NCrF/NSQF Level 4

Submitted By:

MSME TECHNOLOGY CENTRE

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Section 1: Basic Details

1.	Qualification Name	MASTER TECHNICIAN-FOOTWEAR DESIGN AND PRODUCT DEVELOPMENT		
2.	Sector/s	LEATHER		
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: <i>(change to previous, once approved)</i>	Qualification Name of existing/previous version: -	
4.	a. OEM Name b. Qualification Name <i>(Wherever applicable)</i>	NA MASTER TECHNICIAN-FOOTWEAR DESIGN AND PRODUCT DEVELOPMENT		
5.	National Qualification Register (NQR) Code & Version <i>(Will be issued after NSQC approval)</i>	MSME/FDPD/65	6. NCrf/NSQF Level: 4	
7.	Award (Certificate/Diploma/Advanced Diploma/Any Other) <i>(Wherever applicable specify multiple entry/exits also & provide details in annexure)</i>	Advanced Certificate		
8.	Brief Description of the Qualification	To develop Creative Footwear Designers with the capability of transforming innovative ideas to product designs and converting into real products with techno- Commercial feasibility. This Programme is aimed at training candidates for the job of "Designer in the "Leather/Footwear" Sector/ industry. This qualification are competent in footwear Designing and Product Development		
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/ Employee	a. Entry Qualification & Relevant Experience: Senior Secondary/ Pre University/ 10+2		
		Sr. No.	Academic/ Skill Qualification (with	Required Experience (With

			Specialization- if applicable)	Specialization-if applicable)															
		1.	NA	NA															
		2.																	
		b. Age: Minimum 17 Years Completed																	
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	40	11. Common Cost Norm Category (I/II/III) (wherever applicable): I																
12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																	
13.	Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)	☒ Offline ☐ Online ☐ Blended <table border="1"> <thead> <tr> <th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>Total (Hours)</th></tr> </thead> <tbody> <tr> <td>Classroom (offline)</td><td>360</td><td>500</td><td>340</td><td>1200</td></tr> <tr> <td>Online</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </tbody> </table> (Refer Blended Learning Annexure for details)			Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Total (Hours)	Classroom (offline)	360	500	340	1200	Online	0	0	0	0
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	Total (Hours)															
Classroom (offline)	360	500	340	1200															
Online	0	0	0	0															
14.	Aligned to NCO/ISCO Code/s(if no code is available mention the same)	3122.3100																	
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	MASTER TECHNICIAN																	
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	English and Hindi																	
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications: The proposed qualification differs in learning outcomes in line with the MSME to meet the requirement of MSME / Manufacturing Industries.																	

18.	Is the Job Role Amenable to Persons with Disability	☐ Yes ☒ No If "Yes", specify applicable type of Disability:	
19.	How Participation of Women will be Encouraged	Providing placement opportunities to the women candidates to work in more sophisticated sections in footwear industries. Reservation for women aspirants to encourage women participation.	
20.	Are Greening/ Environment Sustainability Aspects Covered (<i>Specify the NOS/Module which covers it</i>)	☒ Yes ☐ No The said aspect is covered in the module name Workshop Technology.	
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☒ Yes ☐ No Colleges ☒ Yes ☐ No Subject to availability of resources.	
22.	Name and Contact Details of Submitting / Awarding Body SPOC (<i>In case of CS or MS, provide details of both Lead AB & Supporting ABs</i>)	Name: Sh. Vijay Mahipatrao Bankar Contact No. +0755 3501078 Email-msmetcab@gmail.com	
23.	Final Approval Date by NSQC:	24. Validity Duration: 3 years	25. Next Review Date: 2027

Section 2: Module Summary

NOS/s of Qualifications,
(*In exceptional cases these could be described as components*)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level, for further details refer curriculum document.

The.-Theory **Pr.-Practical** **OJT-On the Job** **Man.-Mandatory Training** **Rec.-Recommended Proj.-Project**

SEMESTER= I															
Sr. No	NOS/Module Name	NOS/Module Code & Version (<i>if applicable</i>)	Core / Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks				
						Th.	Pr.	OJ T- Ma n.	OJT - Rec.	Total	Th.	Pr.	Proj.	Viva	Weightage (%) (<i>if applicable</i>)

1.	Art and Sketching	MSME/ACFDPD/101	Core	4	2	0	60	0	0	60	100	100	0	0	200	
2.	Last Modelling	MSME/ACFDPD/102	Core	4	1	10	20	0	0	30	100	100	0	0	200	
3.	Designing and Pattern Cutting	MSME/ACFDPD/103	Core	4	4	20	100	0	0	120	100	100	0	0	200	
4.	Clicking Technology	MSME/ACFDPD/104	Core	4	3	20	70	0	0	90	100	100	0	0	200	
5.	Closing Technology	MSME/ACFDPD/105	Core	4	3	20	70	0	0	90	100	100	0	0	200	
6.	Lasting & Making Technology	MSME/ACFDPD/106	Core	4	3	30	60	0	0	90	100	100	0	0	200	
7.	CAD and Pattern Engineering	MSME/ACFDPD/107	Core	4	4	0	120	0	0	120	0	100	0	0	100	
Duration (in Hours) / Total Marks					20	100	500	0	0	600	600	700	0	0	1300	
SEMESTER= II																
8.	Foot Comfort and Customer complaint	MSME/ACFDPD/201	Core	4	1	30	0	0	0	30	100	0	0	0	100	
9.	Industrial Management and Safety	MSME/ ACFDPD/202	Non Core	4	2	60	0	0	0	60	100	0	0	0	100	
10.	Quality Control and Standardization	MSME/ ACFDPD/203	Core	4	1	30	0	0	0	30	100	0	0	0	100	
11.	Range building & New Product Development – Final Project	MSME/ACFDPD/204	Core	4	7	0	0	210	0	210	0	100	0	0	100	
12.	OJT - In plant training (Shoe manufacturing Technology)	MSME/ACFDPD/205	Core	4	5	20	0	130	0	150	0	100	0	0	100	
13.	Employability skills	MSME/ES/04	Non Core	4	4	120	0	0	0	120	100	0	0	0	100	
Duration (in Hours) / Total Marks					20	260	0	340	0	600	400	200	0	0	600	

Elective NOS/s:

S.No	NOS/Module Name	NOS/ Module Code & Version (if applicable)	Core/ Non-Core	NCrF/N SQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Optional NOS/s:

S. No	NOS/Module Name	NOS/ Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Assessment - Minimum Qualifying Percentage:

Specify any one of the following:

Minimum Pass Percentage –Aggregate at qualification level: (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Minimum Pass Percentage –NOS/Module-wise : (Every Trainee should score a specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	The entry requirement for a trainer has to be Diploma/ Degree or equivalent in relevant field with Practical skills or at least one level higher (preferably level 5.5 and above) and a minimum of 2 years of industry or training experience in the relevant domain (with at least 50% of such experience as industry experience). Or in accordance with the TOT guideline of NCVET
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	A master trainer is a person who has Diploma/Degree or equivalent in relevant field and with 3- 5 years of training experience (with preferably some industry experience) gets eligible to become a Master Trainer, Or in accordance with the TOT guideline of NCVET.
3.	Tools and Equipment Required for the Training	☒ Yes ☐ No (If "Yes", details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Up-Skilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Diploma /Degree or equivalent in relevant field with 3 years of experience in Production/ Training/ Design Department from Tool Room/ Technology Centre of MSME or any reputed industry. Only (TOA) certified assessors will be able to conduct the assessments.
2.	Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Only certified proctors are engaged in the invigilation of assessment.
3.	Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Degree/Post Graduate Diploma/Advanced Diploma / Diploma or equivalent in the relevant discipline with minimum 5 years of experience in Production/Training/ Design Department from Tool Room/ Technology Centre of MSME or any reputed industry.
4.	Assessment Mode (Specify the assessment mode)	Blended Type (Offline + Online)
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☒ Yes ☐ No (details to be provided in Annexure-if it is different for Assessment)

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): No
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): No
3.	Government /Industry initiatives/ requirement (Yes/No): No
4.	Number of Industry validation provided: 32
5.	Estimated nos. of persons to be trained and employed: 60 in Year 23-24
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: NA If "No", why:

Section 6: Annexure & Supporting Documents Checklist

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors (Mandatory)	Advanced Certificate Annexure-I
2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Annexure-II
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Annexure-VI
4.	Annexure: Assessment Strategy (Mandatory)	Annexure-VII
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is “Blended Learning”)	Annexure-V
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	NA
7.	Annexure: Acronym and Glossary (Optional)	Annexure-VIII
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Annexure IX
9.	Supporting Document: Career Progression (Mandatory - Public view)	It is given in the Section 1- Basic Details
10.	Supporting Document: Occupational Map (Mandatory)	NA
11.	Supporting Document: Assessment SOP (Mandatory)	NA
12.	Any other document you wish to submit: • Industry Validation Summary • Training & Placement Detail	Annexure-III Annexure – IV

Annexure: 1 Evidence of Level

NCrF/NSQF Descriptors	Level	Key requirements of the job role/ Outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
Professional Theoretical Knowledge/Process		- To Design and develop the footwear as per customer specifications using well developed skills. - To develop a Design and Technology support system based on the product requirements. - To prepare and follow the quality assurance manual to meet the customer specifications. - To analyze the raw materials suitability for the specific product. - To develop the Standard Operating Procedures (SOP) of footwear to convert design into the actual product.	In the occupation of footwear designer, each work is considered as a new challenge, as the production sequence in and construction is different. The new product design and development and trail production is always a challenge as products which shall come for design and production are always unpredictable and new from the previous one. Even though the designer is working on different construction, he/she has to face challenges of type of construction due to change in material specifications and customer survey. Production requirements shall change from customer to customer and job holders have to provide tangible solutions with required quality and at optimum cost. Many times the Designers are not clear in the procedures in familiar context. In this qualification Job Holder has to carry out Quality Assurance of the production and material as per the quality compliance manual which includes receiving inquiry from customer, material testing reports internally and through outside agencies. Job holder shall review and approve the design from the interdepartmental team and from the customer. Job holder shall prepare mould base / die set /other jigs and fixtures and tools etc. Job holder shall be responsible for the verification and release of SOP made by the team members. Job holder shall be responsible for trial production and rectification and validation of the final product as per requirements in the Product Development Chamber	Level 4
Professional and Technical Skills/ Expertise/ Professional Knowledge		Knowledge in facts, principles, processes and general concepts in Footwear Designing and Development.	As a job holder is dealing with design and development of footwear in the footwear product manufacturing units, it is required that the job holder should possess overall (Comprehensive) practical knowledge in the field of footwear production and development like Designing, Production, Management etc. Job Holder shall apply his/her Knowledge	Level 4

	● Describe different Constructions used in the footwear production ● Describe Suitability of different materials used in footwear production and its applications. ● Define preparation of SOP for the production. ● Describe Manufacturing Processes and process plan. ● Describe Range Building and New product development w.r.t. various seasons –Spring Summer and Autumn Winter.	in facts ,principles ,processes and general concepts in footwear Designing and Development in general construction, methodology like, types of design and various development techniques types of footwear construction, different size systems, different types of raw materials, etc. The Job Holder shall have detailed knowledge of elements of tool, material and sequence also shall list elements used in press tool, application of each part and importance, manufacturing operations of each element, accuracy criteria for production elements. Job holders should possess knowledge in pattern development using computer aided design software to meet utmost perfection. And he/she should know how to do the production costing of the particular product using scientific methodologies. Through general concepts and knowledge job holders shall judge the best production process with appropriate reasoning like best economy, quality requirement etc.	
Aptitude, Mind Set , Soft Skills, Employment Readiness & Entrepreneurship Skills	● Develop Excellent Professional Communication/ Negotiation skills. ● Identify customer's requirement and create conceptual design ● Develop plan for footwear production process as per customer demand. ● Design marketing plan for Entrepreneurship ● Design and Development of Mould as per the market demand. ● Design and Development of Dies as per the design. ● Develop prototypes using CAD software ● Develop creative solutions to the predictable and unpredictable problems in the production process.	Job holder shall carry out the design and development of footwear's through following professional skill: gather accurate information on the requirements of the customer, create conceptual design, confirm the customer's objectives for the products or processes, Using standard unit system as customer's requirement, plan for the production process and Develop a schedule for the production process e.g. works order date, plan date, actual completion date, Obtain and review existing information with reference to the specified design requirement light weight , eco-friendly products ,packing and shipping instruction , etc. Job Holder shall design and develop footwear proto types using various CAD software like Shoe master, Pro cam etc. The Job Holder shall prepare concepts and classify the appropriate procedure and shall also explain various theoretical and practical aspects in footwear manufacturing. In the qualification job holder shall provide Creative solutions of the abstract problems which arises during the design and development and production of footwear such as: clicking error ,size marking errors ,color mis -match,	Level 4

	• Develop quality consciousness concepts • Prepare a cost sheet of the product. • Develop Entrepreneurship Skills for the business	defects in the components ,stitching error, attaching errors ,skiving errors and sole attaching and bonding issues . Job holder shall solve the above problems by undertaking self-study and providing creative solutions by using Engineering research methodology where the job holder shall undertake experimentation on the problem and can generate feasible solutions wherever applicable. Job holder shall Undertake self-study to solve the problems encountered during the project through data collection, identification of problem, defining the problem, by identifying parameters affecting the performance and by using different Engineering Research Methodologies while doing so the job holder shall demonstrate intellectual independence to guide the team members. Job holder shall demonstrate analytical skill while designing and production of footwear work study ,method study ,productivity ,sequence of operation ,quality assurance reports etc.	
Broad Learning Outcomes/Core Skill	• Use basic health and safety practices at the workplace • Apply logical skills and mathematical skills in Design & production • Work on footwear design and development project • Collection and Dissemination of technical information /Communicate effectively	Job holder shall work on project where he/she shall gather accurate information on project concept and requirements, Confirm the project objectives, preparation of conceptual plan, selection of SOP based on capabilities , use Presentation skills, utilize CAD Software, communicate clearly about the project requirement to the group members through written /verbal/email etc. as per organizational standard, identify different design options which will meet requirements and specification, Develop logical solution among different options available using latest technology e.g. CAD software, pattern engineering , Prototyping, trail production ,tooling etc., Analyze project concepts to meet design requirements, identify problems with work planning, procedures, output and behavior and their implications e.g. climate variation ,validation, prioritize and plan for problem solving, communicate problems appropriately to others. Identify sources of information and support for problem solving, seek assistance and support from other	Level 4

		sources to solve problems, Identify effective resolution techniques e.g. advance machineries and production technologies , seek evidence for problem resolution, inspect quality of own or other's work, analyze information according to enterprise and work requirements, use diagnostic skills to identify and determine causes of ,faults error codes, take decisions within if within own jurisdiction or take approval for case outside own jurisdiction, Prepare cost estimate of the project, Prepare design & development , production plan with timeline and responsibilities of self and team members. Job holder shall use protective equipment while working in shop floor, wear helmet, state the name and location of people responsible for health and safety in the workplace, state the names and location of documents that refer to health and safety in the workplace, identify job-site hazardous work and state possible causes of risk or accident in the workplace ,state methods of accident prevention in the work environment of the job role, state location of general health and safety equipment in the workplace, inspect for faults, lift heavy objects safely using correct procedures, apply good housekeeping practices at all times, use the various appropriate fire extinguishers on different types of fires correctly, participate in emergency procedures.	
Responsibility	• Work independently and partially guide team members in terms of responsibility for output of group and development.	Job holder shall work independently and take partial responsibility for the output during analyzing requirements of the component, concept generation of footwear production and finalizing the requirements with the customer. After receiving instructions and specifications from the customer job holder shall prepare the proto-type with timeline and with job responsibilities of team members like preparation of bills of the material, preparation of mould base/ die set, technical charts, specifications sheets, quality manuals, verification and release of articles for trail production and rectification along with validation and will have some responsibility of output of group.	Level 4

		Job holders shall encourage team members for continuous learning and development by time to time discussing with them various issues of project suitability to specified machines, new development in machines, selection of material, Job holders shall follow work standard, specific norms and procedures laid down by the organization.	
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Annexure: II Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 20

Sr. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Travelling Head beam clicking press	25 tones/ 220V/ 5HP/ Two Switch	1
2	Hydraulic Swing arm Clicking Press	With Standard (Italian) (16-20 tons)/ 220V/ 1kW	2
3	Skiving Machine	220 V / 1HP (Normal)/ wall knife/ Max Sewing Speed: 2800 rpm	2
4	Skiving Machine (Heavy)	220 V / 1HP (Heavy Duty)/ 1200 RPM/ Well knife	1
5	Sank Riveting Machine	220 V / 1.5 HP/ Riveting Heigh, 800 mm. Eyelet Diameter, 15-25 mm. Eyelet Length, 3-8 mm. Throat, 200 mm. Power, 1/2 HP	1
6	Insole molding machine	440V / 3 HP/ Two station with standard molds	1
7	Insole beveling machine	440V / 3 HP	1
8	Stamping machine	220 V / 1 KW/ Pneumatic Type/ Heat coil	1
9	Strap Cutting machine	440 V/ 2 HP 150 MM Working width Complete with Head/ Table/ Motor/ Stand Spacers 2mm , 3mm, 5mm, 10mm, 15mm, 20mm, 25 mm each 10 nos. and spares	1
10	Flat Bed Sewing machine	220 V / 1 HP/ Single needle lockstitch drop feed sewing machine complete with head/table/motor/ stand/roller/ pressure foot/ roller feed	5
11	Post Bed Single Needle,	220 V / 1 HP Lockstitch Sewing Machine Complete with Head/ Table/ Motor/ Stand / Roller Pressure Foot	5
12	Zig -Zag machine	220 V / 1 HP, Single needle stitching m/c complete with head/ table/ motor/stand and working lamp	1
13		220 V / 1 HP/ 80 times / Min, Size of Machine : 680*450*1400mm Weight 120 Kgs	

	Eyelet machine		1
14	Seam Rubbing & Tapping machine	440 V/ 2 HP/ Pneumatic	1
15	Wrinkle Chaser	440 V/ 5 KW/ Steam Temperature 100-120 Degree Celsius/ Air Temperature 125-135 Degree Celsius/ Numeric Pressure	1
16	Heat Setting Machine	440 V/ 20 KW/ Numeric/ 3-6 Bar pressure/ 1.3 to 5 Minutes time/ Steam Temperature 100-120 Degree Celsius/ Air Temperature 125-135 Degree Celsius/ pneumatic Pressure.	1
17	Roughing Machine (With Dust Collector)	440 V/ 5 HP/ Emery Paper /GRIT/ 25/60/80/ Wire Brush	1
18	Heat Reactivater (IR) auto cut	220 V/ 4 KW/ 75-90 degree Celsius, Dwell time =2-6 SEC	1
19	Polishing Machine (With Dust Collector)	440 V/ 4 HP/ Cotton Brush with RPM 750-1000 rpm and woolen=500-750 RPM	1
20	Pneumatic Sole Press Machine	220 V / 1 HP/ Automatic and Vertical with 4-6 Bar Pressure	1
21	DIP Machine (PVC Vertical)	440 V/ 200 KW/ 10 Station, Extruder with temperature 150-180 Degree Celsius	1
22	Chiller Machine	440 V/ 10 KW/ 4-6 BAR/ Temperature -20 to -30 Degree Celsius, Time 1.5 to 3 Minutes	1
23	Stroble Stitching Machine	220 V / 1 HP/ Mechanical Paddle Operation	1
24	Air Compressor	440 V/ 20 HP/ Auto Cut at (60 BAR), Air Reservoir with air dryer	1
25	Post Bed Double Needle Lock Stitch Machine	220V/ 1HP220 V / 1 HP Lock Stitch Sewing Machine Complete with Head/ Table/ Motor/ Stand / Roller Pressure Foot	2
26	Leather Components Splitting Machine	Max Width of Split 420 mm Max Thickness of Split 3 mm Mini Thickness of Split 0.5 mm Power of Motor 3 kW/ 440V	1
27	Fusing Machine (Rotary Ironing machine)	Semi-Automatic, Pneumatic Max Fabric Width 0-5 mm Size 450 mm Power Consumption (kw) 4 kW	1
28	Moccasin pre forming Machines	Moccasin Steaming and Heating ironing forming molding machine Voltage 440V Power 5 KW Pneumatic, Machine Dimensions 1250*1000*1700MM, 6 stations	1
29	Toe Puff Attaching Machine	Double station, 220 V/ 5 KW with steam 100-120, Pneumatic	1
30	Counter Molding Machine	Double station, 440 V/ 5KW with wiper plate, Pneumatic, Temperature -20 and 130 degree Celsius	1

31	Toe Lasting Machine	9 Pincers, Solid melt adhesive roll, 440V / 3KW Pneumatic, Manual Control	1
32	Sole stitching machine	220V/ 1 HP, Chain Stitch Sewing Machine Pneumatic	1
33	Pounding Machine	220 V/ 2HP/ With Heater	1
34	Seat and side lasting machine	440V/ 5HP/ self-adhesive mechanism, Pneumatic,	1
35	Mulling Machine	440V/ 5KW/ Stem with temperature 100-120 auto cut mechanism	1
36	Color Spray Cabinet	415 V / 2 HP/ 50 Hz with water flow mechanism at sides	1
TOOLS			
CLICKING SECTION			
37	Continental cutting knife	As per Standard	30
CLOSING SECTION			
38	Closing Hammer	As per Standard	30
39	Scissors	As	30
39	Punches	As per Standard	30
40	Gimping Scissors	As per Standard	30
41	Closing Rampi	As per Standard	30
LASTING SECTION			
42	Hand Pincers	As per Standard	30
43	Hammer	As per Standard	30
44	Bottom Rampi	As per Standard	30
45	Nail Puller	As per Standard	30
46	Stitching owl	As per Standard	30
47	Shoe Horn	As per Standard	30
DESIGNING SECTION			
48	Universal Cutting Knife	As per Standard	30
49	Measuring Tape	As per Standard	30
50	Shoe Last	As per Standard	200 nos.
51	Designing Paper	As per Standard	30
52	Cutting Mate	As per Standard	30

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Projector
2. White Board

3. Powerpoint Slides
4. Videos

Annexure III: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

Annexure III: Industry Validations Summary							
Sr. No.	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1	M/s Jatin Overseas	Mr. Tirath Singh	Managing Director	D-10, Site-C UPSIDC, Sikandra, Agra- 282007	9837132207	jatinjk5@rediffmail.com	-
2	M/s Carson Overseas	Mr. Mahipal Singh	Manager HR & Admin	B-9,10,11 EPIP, Shastripuram, Agra- 282007	9897945496	info@carsonoverseas.in	
3	M/s Maya Overseas	Mr. Ravi Kant Sharma	Proprietor	9, Shiv Vihar Colony, Kailash Road, Sikandra, Agra- 282007	9259520515	infomayatrading@gmail.com	
4	M/s S.S.P. Shoe Company	Mr. Hira Lal	Owner	Vilasganj, Awadhपुरi, Agra- 282010	9358506068	sspshoescompany@gmail.com	
5	M/s Sagar Footwear	Mr. Jagdish	Owner	Village- 90 Kalwari Shahganj, Agra- 282010	9627485374	akashsagar1092@gmail.com	

6	M/s Virola International	Mr. Atul Sharma	Manager Hr & Admin	17/4 A-6 Mathura Road, Runkuta Agra- 282007	7088600123	info@virolaindia.com	
7	M/s Akash Footwear	Mr. Akash	Proprietor	Vilasganj, Kalwari, Shahaganj, Agra- 282010	9627569635	Akashsagar1092@gmail.com	
8	M/s Rajbeer Shoes	Mr. Rajbeer	Proprietor	90, Kalwari, Shahaganj, Agra- 282010	8445690409	dk553140@gmail.com	
9	M/s Dawar Footwear Industries	Mr. Rajeev Mishra	Manager HR	Near Bapu Asaram Ashram, Agra- Delhi Road, Sikandra, Agra- 282007	0562-3502600	shipping@dawargroup.com	
10	M/s Juta Dastkar Fedresion	Mr. Abhikam Singh		25/36 Budh Vihar, Chakkipart, Chipitola Road, Agra	8171105364	abhikamsingh@gmail.com	
11	M/s Tirupati Exports	Mr. Mahendra Singh	Proprietor	Plot No.-1, Ganesh Vihar Extension, UPSIDC Road, Infort of C-32, Agra	9927300515	tirupatiexportsagar@gmail.com	
12	M/s G.N. Industries	Mr. Gaurav Singh	Proprietor	Plot No.-32, Shri Ram Vatika Mauja Baipur, Agra- 282007	8006345789	Gnindustries24@gmail.com	
13	M/s Guide Footwear Co.	Mr. Varun Ralli	M.D.	B-3 & B-4, Site-B, UPSIDC, Sikandra, Agra- 282007	9997197362	info@guidefootwear.com	

14	M/s UV Overseas	Mr. Lalit Kumar	HR	Khasra No. 1282, Behind Navin Sabji Mandi, Sikandra-Bainpur, Agra-282007	7253893236	info@uvoverseas.in	
15	M/s Metro & Metro	Mr. Dipak Ray	HR Manager	5/170 Halwai ki Bagichi, Matura Road, Agra-282002	8851190270	mmagra@metronmetroindia.com	
16	M/s Magnum Footwear Pvt. Ltd.	Mr. Rishabh Jain	HR (Sr. Executive)	C-47, Site-C, UPSIDC, Industrial Area, Sikandra, Agra- 282007	0562-2640272	info@magnumfootwear.in	
17	M/s C.D. Internatinal	Mr. R.K. Sharma	G.M.	C-10, Site-A UPSIDC, Sikanda, Agra-282007	9719107522	info@cdexports.com	
18	M/s Karam Udyog	Mr. Bipin Kumar Gupta	Factory Manager	9 Gailana Road, Agra- 282007	7055002369	info@karamshoes.com	
19	M/s S.K.S. Global Pvt. Ltd.	Mr. Bhoopendra Singh Fauzdar Head HR	Head HR	289, Runakata Kirawali Road, Agra- 282007	7055108644	Sksglobal.info@gmail.com	
20	M/s Virat Footwear Industries	Mr. J.K. Mishra	Proprietor	Plot No. 9, Shiv Vihar, Kailash Mandir Road, Near Water Works, Sikandra, Agra	9897363543	viratfootwearindustrics@gmail.com	
21	M/s NR Enterprises	Mr. Rakhi	Proprietor	L-2 /253, Shaheed Nagar, Agra	8979551449	Bigacesports@gmail.com	

22	M/s Maya Trading Company	Mr. Ravi Kant Sharma	Proprietor	43/120 L/1 Krishna Colony, Kailash Road, Sikandra, Agra- 282007	9259520515	infomayatrading@gmail.com	
23	M/s Tej International Pvt. Ltd.	Mr. Devedra Chaoudhar	DGM	10th-11th Mile Stone, Agra- Mathura Road, Artoni, Agra- 282007	7088682124	export@tejgroupindia.com	
24	M/s VRD Export	Mr. Rajeev Gupta	HR	Khasra No. 2013/2 Village- Runkata, Agra	9536121233	info@vrdexports.in	
25	M/s Super Bond Adhesives Pvt. Ltd.	Mr. Sameer Bhosekar	Sr. Man. HR	118/119, Vardhaman Industrial Complex, Gokul Nagar, L.B.S. Marg, Thane (W)- 400601, Maharashtra	7045732977	sales@superbond.co.in	
26	M/s Footform	Suklayani Paul	Proprietor	30, Banerjee Para Road, Sarsuna, Kolkata- 700061	7596949946	footform@gmail.com	
27	M/s Strong Last	Mr. Tapan Panda	Managing Partner	111, Matheswar Tala Road, Kolkata- 700046	8240056462	stronglasts2021@gmail.com	
28	M/s KIN Enterprises	Md. Adil Khan	Proprietor	7E Sapgachi 1 st Lane Kolkata- 19	8017200726	900738arfa@gmail.com	

29	M/s R.N.Crafts	Mr. Nando Kisor Raj	Proprietor	Nibedita Nagar, J.R.R. Road, PO- Nona Chandanpukur, 24 Pgns, Kolkata- 700122	7980062536	Mcrafts2018@gmail.com	
30	M/s Huma Enterprises	Mr. Malik Ansari	Partner	Plot No. Khasra No. 130, Opp. Life Line Public School, Site-C, Lakhna pur, Sikandra, Agra- 282007	9897036447	humamalik@rediffmail.com	

Annexure IV: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
23-24	60	55	5	5	0	0
24-25	60	55	5	5	0	0
25-26	60	55	5	5	0	0

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Year	Total Candidates	Women	People with Disability
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Qualification Version		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
0.0	2022-23	27	27	27	24	4	4	4	2	0	0	0	0
0.0	2021-22	18	18	18	16	0	0	0	0	0	0	0	0
0.0	2020-21	27	27	27	24	0	0	0	0	0	0	0	0

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented

1. Fee based Training Program under the Ministry of MSME.
- 2 Capacity building Training program under National SC/ST Hub, M/o MSME, GOI
3. Schemes under the different state governments.

Content availability for previous versions of qualifications:

☒ Participant Handbook ☒ Facilitator Guide ☒ Digital Content ☒ Qualification Handbook ☐ Any Other:

Languages in which Content is available: English and Hindi Only

Annexure V: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

Sr. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	☒ Theory/ Lectures - Imparting theoretical and conceptual knowledge	Books/ e-books, Presentations, Reference Material Audio / Video Modules with 2D and 3D animation Self-Learning Videos /Broadcasts, Projector, PPTs , Online Study materials	100:0
2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Projector, PPTs , Online Study materials	100:0

3	☒ Showing Practical Demonstrations to the learners	Tools and Equipments (As per list)	100:0
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	Tools and Equipments (As per list)	100:0
5	☒ Tutorials/ Assignments/ Drill/ Practice	Online Question Bank. Classroom Tools	100:0
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Weekly Class Test, Revision Test	100:0
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	Tools and Equipments (As per list) /Industrial Visit /In plant Training	100:0

Annexure VI: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS/ Module - Art and Sketching Develop knowledge and skills in footwear sketching/Art and Sketching	PC.1 Preparation for Sketching: a. The Students must understand the relationship between last and feet. Heel height and its effect on fit and comfort. Essential differences for sandals, Shoes and boots last. Toe spring and heel heights', drawing of men's, ladies and children's last. b. Students are trained initially with the lines, curves, still life with free hand last sketching with different dimensions & shading etc. c. Line : Its effect on footwear design, upper and bottom proportion and balance. d. Color: The psychological effect of colour and the importance of the creation of seasonal colour ranges. e. Texture: The effect that surface texture can have on the appearance and wear ability of footwear including light and shade. PC.2 Sketching of Different Models: a. Understanding the importance of meaning of fashion, market segmentation, Niche marketing/designing, Seasonal variations to develop the Sketches/Designs as per need of the market. b. Students should understand the Color and Texture and its effect on styling. Color forecasts, Seasonal colors and use of medium including light and shade. c. wide variety of sketching lasts for men's, women's and children's footwear with different types of toe spring and heel heights. d. a wide variety of creating styles and designs covering men's styles like Derby, Oxford, Monk, women, and children Shoes, Sandals and Boots.	100	100	0	0

	e. Students also learn the Design treatments like seams, stitching, punching, panels, and trims for proper sketches/designs development. F. students also understand the footwear materials like uppers, insoles, heels and unit sols etc. PC3 Design development on Vacuum form: a. students will demonstrate the development of different Styling/designs of men's, ladies and children's shoes, boots and sandals in vacuum form as per market trend. PC.4 Design book preparation: A. Students also develop the presentation skills for footwear design with the help of Shoe magazines, fashion magazines, research and footwear illustrations created in the practical work. B. Students need to prepare Design books/Project assignments which include the different Men's, ladies and children's styles of footwear.				
NOS/ Module-Last Modelling Identify various last dimensions and parameter as per the latest trained and customer requirement design and modify and manufacture last by choosing a suitable manufacturing technique	PC.1 Classification of shoe last: a. Students would know Classification of shoe last; classification based on materials, classification based on heel height and other classification, size system and development of size system, Parts of last and last parameters. b. Students would be able to understand and define the last design in terms of last parameters. PC.2 Design and manufacturing of Last a. Students would be able to demonstrate last manufacturing processes. b. Students would be able to choose a suitable method of manufacturing as per the material of last. c. Students would be able to operate and maintain manufacturing machines. d. Student would be able to know the defects and precision in the manufacturing processes. PC.3 Elements of Solid Modeling a. Students would be able to know various elements of modeling and its process. b. Students will be able to define various terms used in the modeling such as solid geometry, boundary representation etc. PC.4 Solid Modeling of the last a. Students would be able to know and demonstrate different types of modeling techniques. b. Students would be able to understand the importance and utility of different types of modeling software. c. Students would be able to know and can work on various modeling software.	100	100	0	0

	d. Students would be able to work on various modeling projects. PC.5 Application of modeling a. Students would be able to know and demonstrate various operations used such as prototype development, design and development of mould, Development, sketching and styling etc. b. Students can draw a flow diagram of manufacturing process of the last.				
NOS/ Module- Designing and Pattern Cutting Identify customer's requirements and create Conceptual footwear Designs and cut the patterns accordingly.	PC.1 Machinery and Equipment: • Suitability of Equipment, Machines and CAD in footwear design development, patterns making and grading the patterns. Foot measuring device/machines 4. Theory classes: PC.2 Introduction of Footwear • Definition of footwear • Footwear Historical Background. • Basic styles of footwear. • Parts of a shoe. PC.3 Anatomy of Human foot • The Bones and their structure. • The joints. • Ligaments • Muscles. • Skin. • Arches of the foot. • The Function of our feet. • Changes during growth, • Common foot Troubles. PC.4 Foot Measurements: • Measurement for Bespoke Footwear. • Measurement of foot.	100	100	0	0

- Changes in the Foot Shape.
- Size and Fitting Systems/Scale.
- Conversion of Sizes.
- Foot care.

PC.5 The Lasts:

- Introduction to the Last.
- Classification of last according to the material.
- Classification of last according to the construction.
- Classification of last according to the Bottom Plate.
- Last terms.
- Last and Feet.
- Last manufacturing.
- Toe spring & heel Pitch.
- Checking of last.
- Last Bottom edge.

PC.6 Fashion Consideration:

Students will be made aware of the requirements of the different fashion markets (i.e. wholesale, mail order, made to order, mass production and E-marketing etc.), and how these seasonal influences subsequently affect design criteria through the use.

Students will be encouraged to study:-

- a. A wide variety of styles and designs covering men's, women, and children work Boot, Safety Boots, including shoes, sandals and boots.
- b. A wide variety lasts for men's, women's and children's footwear.
- c. A wide selection of unit's sole, both rigid and flexible.
- d. A comprehensive selection of footwear components.

PC.7 Graphic Presentation:

Organizing and editing work for creating the most visually stimulating presentation of balanced, logical and readable solutions. The combination and interpretation of the above will facilitate the production detail, footwear sketches and illustrations as well as diagrams, standards suitable for factory personnel. Students will be encouraged to explore different techniques of footwear illustration in a wide variety of media in order that:-

a. they may develop individual handwriting.

b. they will be able to describe production processes through the blueprint.

c. they will be able to illustrate different constructions, surface textures and finishes.

d. demonstrate and apply knowledge of the constraints imposed upon the footwear designer by anatomical consideration.

PC.8 Footwear Design Considerations:

a. The effects of shoe construction, shoe dimensions, relative to the foot and shape.

b. Foot comfort considered in terms of last fitting, design of uppers, height and shape of quarters.

c. The mechanical properties of the shoe and its component materials and their effect of foot movement and comfort adjustment.

d. Geometric interlock patterns as the basis of upper.

e. Materials and product specifications.

f. Effects of design and styling on pattern cutting – design interpretation.

g. Pattern cutting procedure from Forme cutting to working patterns, pattern trials through Pull over/ product development.

h. Pattern cutting considerations – Market, material, Allowances, different constructions, Upper treatment, dies and knives.

i. Costing methods of scaling.

PC.9 Use of Trims & Accessories:

Use of buckles, bows, straps, elastics, Velcro, saddles, collars, eyelets, laces, padding, ski – hooks, sliders and fittings for functional and decorative purposes.

Practical Classes:

PC 10 Introduction to pattern cutting Techniques:

Different methods of last covering and Forme making, Production of a working standard (compatible to construction allowances) and its section patterns (uppers and linings),bottom stock patterns, Knowledge of shoe making operations etc.

- Function of a Shoe Designer.

- Tools & Equipment required for a shoe Designer.

- To acquire basic design criteria for quality workmanship and attention of the students that they have really understood the fundamentals of designing and pattern cutting.

PC.11 Forme Cutting/Making:

To gain an understanding of the different methods of forme making, skills required to produce Inside, Outside and mean forme using the tape method plus 2 additional methods.

- Producing a slotted Paper Forme.
- Producing a Tapped Forme.
- Development of Vacuum Forme.
- Producing a Mean Forme.
- Marking on Mean Forme (Style, Size, Last No & Length, Date and Name (Forme Developer).

PC.12 Development of Upper, Lining and Bottom patterns (Men's styles):

To acquire the knowledge and skills to produce the basic working standards and its patterns for the men's styles of Gibson (Derby), Oxford, Brogue, Casual, formal, Moccasin, trainer, Slip-on, Boots. Bottom patterns for manufacturing the footwear.

The students have to gain the skills for producing the Upper & lining standards, Cutting standards, working patterns (upper and lining), Bottom patterns etc as required for product development.

PC.13 Development of Upper, Lining and Bottom patterns (Ladies Styles):

To gain an understanding and skills to produce the basic Ladies styles of Court shoe, Ballerina, Sport shoes, Moccasin, Booty, sandal working standards and its patterns, Bottom patterns for manufacturing the footwear.

PC.14 Development of Upper, Lining and Bottom patterns (Children styles):

To acquire knowledge and skills to produce the basic Children's styles of Derby, Bar, Sport shoe, Boots working standards and its patterns for manufacturing the footwear. The Students should also learn the modern production methods and techniques for producing the Footwear.

PC. 15 Development of Bottom Stock Patterns:

To acquire knowledge and skills to produce the Bottom stock patterns like Insole, Sock and Sole patterns for various constructions; cemented (Struck-on), veldtschoen (Stitch down), welted, California (Force lasting), String lasting, sandal skeletons for strap designs. Louis flat, Cuban and wedge heels. Heels cover patterns.

PC.16 Specialized Pattern Cutting Techniques:

Springing/Deadening techniques for economy look and fit. Appreciation of pattern interlock without affecting style or line.

PC17 Development of patterns as per constructions:

	The students have to develop the skills for the development of shoe designs and its patterns for various constructions like Stovall, String lasting, Driving Shoe, Stitch-down etc. PC.18 Pull – Over/Prototype Production: To ensure that the students have really understood the fundamentals of design and pattern engendering to check out the design and patterns perfection of different styles, the Pull – Over/Prototypes of shoes to be produced by using the knowledge, techniques and practical shoe making skills. These design prototypes footwear, ready for appraisal and assessment, suitability of commercial qualities production. PC.19 Design/Style Specification: Specification procedures used in production, detailing of style, Upper treatments, materials and components used. colors, last and constructions. Information and sequence of operation for manufacturing of products, finishing and shoe room treatments. PC.20 Patterns Grading: • Fundamentals of Grading. • Manual Grading (Upper, Lining & Bottom Patterns) • Grading by tools/Pantograph. • Grading by CAD/CAM. PC.21 Average Calculation: Calculation of consumption of Raw materials (Upper, Lining, Reinforcement) by using different methods specially graphical methods.				
NOS/ Module- Clicking Technology To possess knowledge about different materials used in clicking section and concepts of clicking with the use of latest technology	PC.1 Clicking Technology: The upper components (upper, lining, reinforcement). Materials used in footwear upper making – man – made materials, leather (basic characteristics). Hand cutting and related tools and equipment. Machine cutting and related equipment dies. The various material waste causes. Pattern layout on plain materials. Pattern layout on fabric materials. Characteristics of leather as per the upper cutting view.	100	100	0	0

The leather material quality variations in relation to different parts of the skin/ hide (stretch – resistance – color – grain – texture)

The upper components specific quality requirement (Vamp – quarters – inside – outside etc.)

Defects marking up on Leather.

Leather grading.

Leather sorting.

Leather store and storage.

Hand cutting pattern storage.

Size making (figure and codes).

Importance of economic cutting as required to reduce product cost.

The economic aspect of hand clicking as compared with press clicking.

The advantage of press clicking for intricate patterns.

The importance of light in the clicking room.

Quality control applied to upper clicking.

Safety precautions applied to upper clicking.

PC.2 Clicking Department Procedure

The course will lay stress on practical clicking room management. Each item will receive adequate explanation and students will be given practice in the appropriate section.

a selection will be made from the following programme:

1 -

- a. The nature of clicking.
- b. Hand cutting equipment – maintenance – the clicking room manager responsibility for the maintenance of equipment
- c. Need for economy and accuracy in clicking.
- d. Produce basic graphic information.
- e .Explain the main elements of occupational health and safety.
- f. Understand the need for personal protective equipment in the workplace.
- g. Cutting Job card/worksheet.

Practice: The use of a hand clicking knife in cutting exercises.

2 -

a. The general qualities of leather:

(i) Lines of tightness and stretch

(ii) Quality variance in skin

(iii) Defects in upper leather

practice: layout of piece cut and $\frac{3}{4}$ cut court shoe.

3 -

a. Materials for shoe uppers.

b. Types of leather in common use.

c. Examinations of leather.

d. Skins, hides and sides.

e. Examination of effects of tanning on leather:

(i) Quality

(ii) Purpose of different leathers.

f. correct storage of leather. Practice: hand cutting of multi – pieced shoes, with special attention to making techniques.

4 a. A review of fabrics in general use for linings and the cutting system need.

Practice: laying out lining patterns on fabrics.

5 a. Press cutting equipment.

b. Compare swing beams and travelling head presses.

c. Other cutting methods: laser, water jet, reciprocating knife.

d. Types of knife comparisons.

PC.3 Basic Clicking Costing

1 a. Cutting allowances.

b. Clickers costing sheets.

PC.4 components:

1 Leather:

a. A descriptive outline of leather production

b. A descriptive outline of leather finishing treatments.

2 Textiles:

a. A descriptive outline of textiles: production and weave classification.

b. A descriptive outline of the production and classification, leather substitute, upper materials and coated fabrics.

3 Synthetics:

a. A descriptive outline of Synthetic materials: production and weave classification.

	b. A descriptive outline of the production and classification, leather substitute, upper materials and coated fabrics. 4 Bottom Stocks: Toe puffs , Stiffeners and Insoles: 5 Insole constructions: a. Two – piece b. Sandwich type c. Molded Insole.(importance of correct molding and shank profile). 6 souls: Sheet Sole-leather, Resin rubber, Micro cellular SVS, micro cellular EVA, Rubber and Process. d. crepe.				
NOS/ Module- Closing Technology To supervise the production process in the closing department and knowledge about different constructions and latest machines.	PC.1 Machinery and Equipments: • Range of hand tools suitable for upper treatments. • Basic types and specialist stitching machines. • Skiving, backing, stitch marking, perforation, folding, Stamping, Eyeleting and ancillary machinery. • Automatic and semi-automatic equipment for upper processing. PC2 Theory classes: a. Outline basic shoe styles and upper presentation. b. Range of operations require for upper preparation: c. Skiving, Edge treatments, Stitching, and Seams. Eyeleting. d. Reinforcement materials and methods of upper reinforcements, e. Types of seams and Stitching. f. Decorative treatments. g. Welding treatment for upper assembly, decoration and ornamentation. h. Needles and threads: - types, sizes, selection, classification, relationship, application to work. i. Jig assembly of upper components. j. Sequence of operations as per the shoe styles and the impotence of Correct sequence. k. Upper shaping by forming equipment/blocking machine l. Departmental management of work loading. m. Types of transporter systems and its advantages. n. Use of grinders and adhesives in the closing room. o. Quality control and Management. In process quality control.	100	100	0	0

	p. Random and final inspection. q. Chart preparation & Job card/ticket. PC.3 Closing Practical: a. Students will be introduced to the different types of stitching and unstitching machines available. b. Students will be taught the techniques of handcrafts and the use of machines for similar operations. c. Students will be trained in their use and in the use of adjustments Necessary to functional efficiency. d. Demonstration of main activities e.g. Edge skives, Edge treatments. And Upper treatments. e. Types of seams, Stitching and relationship between thread, Needle, and Seam. f. Demonstration of marking and awareness on the removal of marking. g. Demonstration on Punching, perforation and Eyeleting. h. Demonstrate the range of preparatory hand and machine operations available for upper preparation. i. To develop practical operating skills so that students will gain their own speed and momentum for product developments and bulk production. j. Develop the skills of sequences of upper construction required for different styles and to encourage them to see logical progression. k. Demonstration that the way in which the upper is 'finished off' can greatly affect not only its appearance but the selling price to the end user-the customer. l. This will be followed by the making up of different basic styles of men's women's and children's footwear. Practice: Initially the training will be by different exercises required for assembling of uppers and will be followed by practice on making up of different basic styles of uppers in the closing room.				
NOS/ Module- Lasting & Making Technology To supervise the production process of different construction in	PC.1 Machinery and Equipments: Range of hand tools, Equipment suitable for lasting, Making and Finishing.. Basic types of machines suitable for the bottom section. Automatic and semi-automatic equipment & machinery for Lasting, Making and finishing Department.	100	100	0	0

the lasting/bottom department using the latest technology.	Conveyor system/work transportation systems. PC.2 Theory classes: - Bottom stock materials-Natural and synthetic materials. - Sole materials Natural and synthetic materials. - Shoe making adhesives. Principal of adhesion, Principal adhesive used in footwear industry their qualities and nature. - Grindery, Cleaners and dressings. - Recent Development of new materials. - Physical testing of natural & synthetic materials. - Wear testing. - Explain the different methods of construction and their advantages and disadvantages (cemented lasts, Veldtschoen, Welted, Moulded on etc). - Explain the Direct and indirect method of attachment. - Lasting principles and method of application. - Sequence of operations as per construction. - Detail information about process involve from upper lasting to finishing (Cemented and welted construction). PC.3 Lasting: - Types and uses of toe-puffs and stiffeners. - Identification of methods of attachments. - Methods of conditioning uppers and components. - Lasting principles and methods of application. - Lasting and bottoming systems for different types of construction in general use. - Explain the sequence of operations for a lasting system. - Explain the back height position and depth of the Vamp. - Discuss lasting faults and the effects upon subsequent operations. - Healing processes, including heel building and heel finishing, covering systems and methods of heel attachment.				
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	j). Systems of transportation and track management. k). Combined lasting system. l). The theory and practice of head setting – moist and dry head effects on materials and adhesive m). The use of hot-melt adhesive in lasting and bottoming. n). Lasting faults and effects upon subsequent operations. o). Work ticket/Job card. PC.4 Bottoming: a. Explain the sequence of operations involved after lasting to Sole attachment. b. Correct techniques for sole attachment. c. Composition, characteristics and uses of insole and soling materials for different constructions. d. Machine cutting direct/caster and planet, rounding operations. e. Preparation of cut stock and bottom components including pre finishing and assembly of pre-fabricated and Louis heel bottom units. e. Planning of storage of lasts and components for assembling the shoes. f. Standardization of components. g. Multiple thicknesses cutting of components. h. Premoulded Shankled insole assemblies and moulded equipments i. Rack and trolley systems and a good work movement system.. j. Departmental management. k. Control of components and raw materials. l. What are buffer stocks? What do you understand about 'dead stock' between machine operations? m. Fitting up to ticket requirements. PC.5 Finishing: a. Procedure and processes for various soling and heeling materials and units.				
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	b. Top- piecing methods of attaching and types and characteristics of material available. c. The objective and methods of finishing – types and functions of machines and equipment used. Finishing processes for both leather and non-leather soles and heels. Effects of faults in preceding operations on the finishing processes. Selection of appropriate processes. d. Comparisons between various finishing systems – pre – finishing finishing on the shoe. Cutters, irons, adhesives, inks, stains, waxes and finishes used. Decorative treatments and rending. e. Statutory requirements concerning general, fire, mechanical and electrical safe working conditions will be emphasized. PC.6 Shoe Rooming: a. The functions and processes of the shoe room, their importance to sales appeal. Shoe room operations and techniques – socking, cleaning, repairing, dressing, top spraying, trim attaching, quarter reforming, irons, inspection procedures, boxing etc., for leather and non – leather materials. Machine adjustments, b. Fault identification, diagnosis of cause and defects in work. Applications of decorative treatments, e.g. antique, shadow spray etc. final examination and inspection procedures – quality control. Packing and presentation techniques. Storage of boxed footwear to prevent aging. c. Statutory requirements: general, fire, mechanical and electrical safe working conditions in relation to the above.				
NOS/ Module- CAD and Pattern Engineering To possess knowledge and skills to work in SHOE CAD and pattern engineering.	PC.1 Introduction to Hand and Machine Grading: a. Fundamentals of hand grading. b. Factors to be considered during grading. c. Insole grading. d. Mean form grading. e. Standard grading. f. Upper and lining patterns grading. g. Grading in different sizing systems. h. Different design patterns grading. PC.2 2D CAD: a. Introduction of 2D CAD. b. Demonstration 2D pattern engineering, data entry, modifying data, defining parts, grading and use of cutter.	0	100.	0	0

- c. Digitization and standard grading (Men's and Ladies).
- d. Digitization and Insole pattern grading (Men's and Ladies).
- e. Uppers and lining patterns grading (Men's and ladies).

PC.3 Demonstration of 2D pattern Engineering, Grading and output to Cutter:

- Transfer lines and forms from 3D to 2D CAD.
- Mean Formes
- 3D to 2D lines
- Use of 2D Digitizer
- Lines and points commands
- Allowances/margins
- Rotate line
- Creating pieces/uppers and linings
- Maker stabs notches
- Pattern information
- Grading
- Output to Cutter.

PC.4 Spring Patterns:

- To gain an understanding of the reason for springing patterns and the techniques required to spring patterns using 2D CA system.
- Reasons for springing
- Boots, High vamps and economy
- Whole cuts
- Manual Springing (without computer)
- Computer springing CAD

PC.5 3D CAD

- **Introduction to 3D CAD:** To gain a general understanding of the functions of the CAD PCs and all the peripheral equipment used in 3D CAD visualization.

	• Scanning textures • Last digitization • 3D design/visualization • Flattening forms • Texture/features • Outputting/images PC.6 Last development through Scanning: • To gain skill in digitization of lasts and processing data ready for 3D on the virtual last. • Selection of last • Last preparation. • Last digitization • Last processing/modification PC.7 Design development of Sole, Heel and materials through scanning: • Selection of Sole and heel files • Basic modification and design of Sole and Heel • Adding color, Texture and features PC.8 Visualization of shoes design: • Last digitization/Scanning • Last manipulation/modification • Development of different styles/shoe designs digitized/scanned last. • Convert 3D images to 2D and graded patterns. Project assignment: To encourage individual design and creativity of the students minimum ten style/shoe designs image in 3D should be developed and converted into 2D and develop the standard and master patterns. The students also make graded bulk patterns with all relevant information markers.				
NOS/ Module-	PC.1 Physiology of the Foot in Relation to Shoe Constructions:-	100	0	0	0

Foot Comfort and Customer Complaint To possess the knowledge in various foot comfort and customer complaints and preventive measures to control the issues.	1 Detail the differences between the variations in accepted shoe constructions 2 Consider the foot's changing shape during the 24 hour period, ranging from resting, walking and running. 3 Outline formal and non-formal shoes and the effects on the foot during a day with various activities 4 Explain the problem of foot abnormalities and the internal shoe dimension restrictions (encasement) 5 Consider actual shoe construction and the effect of material substance of the foot performance level 6 Produce draft outlines to show: • foot geometry • joint co-axial lines • datum line reference points 7 Consider changes to the foot caused by internal and external environment 8 Understand inevitable and encasement pressures PC.2 The Characteristics of Foot and Last Shapes and the Effects of Materials in Providing Foot Comfort 1 Appreciates the reasoning behind the shape differences of foot and last (special reference to lasts for women's shoes). .2 Understands how to "read" a foot and interpret the data to create a last shape to suit the foot characteristics .3 Understands the mechanical problems involved when heel heights are increased 4 Considers relationship between weight distribution, volume displacement and heel height 5 Understands the mechanical properties of all materials as they affect gait 6 Appreciates the value of new materials in reducing weight and increasing flexibility 7 Describes the effects of seam, the shape of components and material choice in improving or impairing natural foot growth and development 8 Is aware of the effect of fashion on shoe shapes and that this may an adverse effect on the foot (possible long term problems) PC.3 :Physical Properties of Shoe Materials, Water Vapor Permeability and Frictional Effects of Hose: 1 Understands those materials which provide the best possible comfort factors				
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	2 Appreciates the value of components that provide shock resistance and reduce static electricity (foot beds and sole units). 3 Understands how materials absorb and desorbs accumulated perspiration as a vapor 4 Is aware that even leather has its limitations in providing foot comfort and that some leather treatments may reduce leather's unique properties (water vapor transmission). 5 Appreciates and records (graphically) that feet are not uniform and therefore, moisture accumulations will vary, however, optimum levels are known and can be accommodated 6 Identifies different hose materials for suitability particularly in men's shoes and to a lesser extent women's 7 Understands the theory of friction and heat generation by the foot, the insole, the sole and the ground (surface types to be included) PC.4: Materials Choice For Comfort Fitting .1 Explain the different materials available for shoe uppers in particular, when combining materials is necessary. 2 Discuss the properties of materials when they are being lasted and the effects of moisture absorbance (mulling and heat setting) 3 Detail the requirements for counter linings, especially combinations with the stiffener (possible print-on types) 4 Describe the choice of materials for foot beds, insole shock absorbers and why they have increased use to-day. 5 Describe the range of shoe inserts commonly used to aid foot comfort and shoe retention 6 Explain how foot comfort may be improved by a study of last contours, in forepart and tread areas in particular. PC.5: The Fundamentals of (Foot) Shoe Fitting 1 The role of foot measurement in last design 2 The need for correct fitting footwear 3 foot deformities 4 Foot measuring gauges 5 Sizing systems lengths and widths 6 Measuring the foot and determination of compromise fit 7 Common problems in foot fitting PC.6: The Avoidance of Faults, Customers Attitudes, Complaints and International Requirements 1 Characteristics of Shoe Styles and Constructions - Defects				
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	2 Upper Materials and Utility 3 Component Reliability 4 Defect Checklist and Maintaining Quality in Production PC.7 The Avoidance of Faults, Customer Attitudes, Complaints and International Requirements 1 Explain what is meant by buyer “expectation”. 2 Discuss the cost of taking corrective action of shoe returns 3 Explain the environmental considerations now needing to be in place to meet international pressure on “green” issues 4 what is meant by “conformance to requirements 5 Discuss the issues of product liability and the consequences of International legislation 6 Discuss “risk” management in shoe production i.e.: Allergy or dermatitis 7 Explain specific EC/UK common legislation and the further requirements of the individual countries. It is essential that a knowledge of legislation to the export country is clearly understood, 9.7.8 Explain what is meant by a safe product to include i.e: The product’s characteristics Packaging PC:8 Characteristics of Shoe Styles and Construction Defects 1. Discuss the principle formal shoe styles and their recognition. 2 Explain the relationship between shoe style and construction, e.g. an Oxford shoe is acknowledged in shoe trade nomenclature as a welted shoe designed to last for a fairly long period of time (with repeated sole replacements). 3 Discuss the various shoe constructions and the process of manufacture, pointing out potential faults. 4 Focus on cemented (flat lasted or stuck on) as being a major construction in use today, outline the faults areas (e.g. loose soles and localized wearing). 5 Discuss the various methods of moulding-on (direct and indirect) the sole unit material and potential problem areas in moulding (e.g. Incorrect mix with PU). 6 Explain the sewn-in-sock method now widely used for sandal manufacture (directly moulded advantages and the main causes of sole unit failure (worn and unworn). 7 Discuss the problems with sports shoes (trainers) of delamination, shoes used for activities never intended by the manufacturer and hardening and splitting of leather uppers. PC.9: Upper Materials and Utility : 1 Explain what is meant by comfort, performance and appearance. 2 Discuss surface appearance and potential fault areas (e.g. offal). 3 Explain the sorting of leathers to allocate the right area for say the vamp (hardware), failure here may well lead to a successful claim being made against the company.				
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- 4 Explain variations in leather that can affect the surface finish therefore, the shoes salability
-Color
Substance, Stretch ,Grain ,Defects and Marks ,Area
- 5 Describe fabrics natural and synthetic -
Woven fabrics
Non-woven fabrics
Knitted fabrics
- 6 Discuss the range of Poromeric and impermeable materials and the natural effects which cause degradation –
Mechanical fatigue ,Hydrolysis ,Heat etc
- 7 Discuss the new range of materials used for outside s and linings such as Gore-Tex and Cambrelle etc, (commercial names). Consider their application in all forms of apparel (shoes and ladies high leg boots).

PC.10: Component Reliability

- 1 Explain the wide variations in shoe construction and the need to use only those components (especially those bought in) that meet the customer's specification.
- 2 Discuss insole choice, materials available and the necessary ability to take perspiration away from the foot:
Flexibility ,Dimensional stability .Abrasion resistance
- 3 Explain the purpose of shanks for high and low heels.
- 4 Explain the different soling materials and problems such as adequate durability and good flex crack.
- 5 Discuss the problems of poor sole adhesion and provide examples, such as :insufficient surface preparation of sole or upper inadequate priming of surface adhesive not allowed to completely dry out insufficient heat reactivation insufficient or uneven pressure in sole press
- 6 Explain the importance of checking all machine settings to ensure that the correct times, temperatures; pressures are what have been specified. Focus attention on the need for regular checks on all machine operations,(it may say 250 pounds pressure on the gauge, but is it?)
- 7 Describe the ways in which quality checks can be made using the operating machine staff to prevent process problems causing defects – especially those that appear soon after wear
Checks in house can save money lost in compensation claims.

PC.11: Defect Checklist and Maintaining Quality in Production

- 1 Discuss the cause and effect issues of non-conforming materials.
- 2 Demonstrate checking methods to determine right “standards” against all components against the specification.
- 3 Demonstrate the need to confirm the “making ticket” against the customer specification.
- 4 Explain the need to make visual comparisons for colour and shade using a suitable light box (all colour matching be done in a controlled lighting situation.
- 5 Discuss the checking of all sole units against the written customer and against the sole unit technical drawings (plans and profiles).

	6 Know the requirements for checking all computer generated patterns against line drawings found in specification (edge treatments, skives, underlay's etc). 7 Knows how to use evaluation and defect check lists. 8 Understands the working requirements for shoe inspection, especially at the final (100%) inspection stage.				
NOS/ Module Industrial Management and Safety To understand the principles of Management and application of the management techniques in footwear units and safety procedures	PC-1 Introduction of Management 1- Dicusss the definition of Management, Functions of Management, Management Hierarchy. Principles of Management Theories. 2- Discuss about leadership, Organization Structure PC-2- Production Planning and Control and Work Study 1- Discuss about production, Types of Production, Productivity, Factors affecting Productivity, Inventory Management 2- Explain about work Study and Method Study and Recording Techniques of Method Study. 3- Discuss about work measurement techniques like time study, work sampling etc. 4- Discuss about significance of Industrial Safety in Workplace 1. Explain about Hazard and types of Hazards, Industrial Hazard, Personal Protective Techniques 2. Explain about DRABC Techniques, Industrial Accidents 3. Discuss about Fire, Fire Safety Devices	100	0	0	0
NOS/ Module Quality Control & Std To understand the concept of Quality control and	<u>PC-1 Introduction of Quality Management</u> 1-Discuss the definition of Meaning of Quality "Assurance" Critical Dimensions of Quality, Benefits of Quality Assurance 2. Discuss about Cost of Quality, Price of Conformance,	100	0	0	0

ensure quality assurance by reducing the non-conformance as per quality manual.	1- Discuss about lean six sigma, Kaizen, Quality Control Tools, ISO 9001:2015. 2- Discuss about Quality Gurus. 3- Discuss about Environment Management System 4- Discuss about Seven QC Tools. 5- Discuss about Quality Policy													
NOS/ Module-Range Building & New Product Development – Final Project Final Project-To empowers the trainee to possess knowledge and skills to Design and Develop Footwear as per market segmentation report.	PC.1 OBJECTIVES The idea of this project is for you to make all the planning preparations necessary to open a factory to manufacture shoes of your own design. This will demonstrate to you the disciplines found in business & how they are all related. ● SCENARIO/TASK To produce a minimum of five shoes, which should form the basis of a different range of footwear for the forthcoming Autumn/Winter2016/2017 or Spring/Summer 2017 season. A clear design theme should be identifiable in all your shoes. You may choose any one of Men’s, Women’s, Children’s or Infant’s range. The sections on the following pages detail your task giving guidelines & marking schedules. ● MARKING/GRADING The percentage of the total project marks for each section of the project is shown in the table below followed by the section title. Each section brief has a breakdown of the marks awarded for areas in that section shown as a percentage of the total marks for that section. <table><tr><th>Sr. No.</th><th>Project/Section</th><th>Max. Marks</th></tr><tr><td>1.</td><td>MARKET SEGMENTATION</td><td>30</td></tr><tr><td>2.</td><td>DRAWING & SKETCHING</td><td>30</td></tr></table>	Sr. No.	Project/Section	Max. Marks	1.	MARKET SEGMENTATION	30	2.	DRAWING & SKETCHING	30	50	250	0	0
Sr. No.	Project/Section	Max. Marks												
1.	MARKET SEGMENTATION	30												
2.	DRAWING & SKETCHING	30												

3.	PATTERN DEVELOPMENT	30
4.	MATERIAL SELECTION	30
5.	CLICKING	10
6.	CLOSING	40
7.	BOTTOM	40
8.	STORY BOARD DISPLAY	30
9.	PROCESS FLOW CHART	30
10.	COSTING	30
	TOTAL	300

Task 1 **MARKETING SEGMENTATION** (30 marks)

A marketing plan should be prepared detailing the target market, & backed up with evidence of market research.

A company logo, brand name & image should be chosen to suit the market & the product. These should be shown in the final display.

An advertising plan should be prepared explaining the choice of media.

- **GUIDELINES**

One board of the three can be used to show the marketing proposals, or it can be displayed separately. Point of sale material can be displayed separately or incorporated into the storyboard.

MARKING

Assessment Area	% of total marks awarded	Max. Marks
Marketing Plan	20%	6

Market Research	20%	6
Company logo & image	40%	12
Advertising Plan	20%	6

- **COMMON SKILLS**

Common skills that may be assessed in this section are:

No.1 Present information in a variety of visual forms.

No.2 Use information sources.

TASK 2 DRAWING & SKETCHING (30 marks)

Twenty designs should be produced. A high degree of individual creativity & clear thematic

Suggested colors, textures, materials development based on ideas

Trims& bottom treatments must be from your source materials

Included. should be evident.

Styling should be relevant to your target market, & indicate potential for future development.

The 4 shoes illustrated on your storyboard Design & aesthetic qualities must must be made as completed pairs of be relevant to the chosen footwear. Market The Finished footwear must show an accurate transfer from illustration to prototype.

- **MARKING**

Assessment Area	Max. Marks
Quality of illustrations & Graphics throughout	5
Story boards	5
Draft Designs	10

Aesthetic transfer of illustration to shoes	10
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- **COMMON SKILLS**

Common skills that may be assessed in this section are:

No.3 Apply a range of skills & techniques to develop a variety of ideas in the creation of New/ modified products, services or situations.

No.4 Use a range of thought process.

Task 3 **PATTERN DEVELOPMENT** (30 marks)

Patterns are to be cut for the 4 styles that appear on your storyboard and in addition one style pattern must be cut for participating in CLRI (Chennai) Designing competition.

- **GUIDELINES**

Formes, standards, outside & lining sections, markers & all bottom stock patterns must be presented in an envelope bearing an illustration of the standard. All patterns should be marked with the relevant information.

MARKING

Assessment Area	Max. Marks
Forms (Outer, Inner & Mean)	5
Standards	5
Upper & Lining Sectional Patterns	15
Bottom Stock Patterns	5

Task 4 **MATERIALS SELECTION & TESTING** (30MARKS)

TASKS

Carry out a program of testing on the upper/lining materials used in the project to determine their fitness for purpose.

Present written reports for all tests.

- **GUIDELINES**

The materials tested must be used in the shoes presented.

Each major upper/lining material used in the shoes presented should have at least one test performed on it.

Where possible, each test must be performed on at least two different materials.

The test chosen must be appropriate to the materials tested.

A report should be written for each test method used.

Each report should include:

An *INTRODUCTION* explaining why the test is important.

A *RESULT* section, containing all original data & the calculated results. All test pieces & charts should be presented stapled (not glued) to A4 paper & fully labeled. Tabulated figures & calculations should be produced using a spreadsheet.

An *INTERPRETATION* section in which the results are assessed against recognized standards.

A *RECOMMENDATIONS* section suggesting any preventative action which is necessary to avoid bulk production/wear problems.

- **MARKING**

Assessment Area	Max. Marks
Suitability of test chosen	5
Data recording & calculation	10
Interpretation & recommendations	10
Presentation	5

- **COMMON SKILLS**

Common skills that may be assessed in this section are:

No.5 **Apply numerical skills & techniques.**

No.6 **Use a range of technological equipment & systems.**

Task 5 **SHOEMAKING SKILLS** (90 marks)

TASKS

Cut, close, make & shoe room your 5 selected shoes using your own patterns.

Production of shoe will not proceed until your standard has been approved & signed by your designing teacher.

The selection of materials that are suitable for your sample is your responsibility. Only sufficient material must be used to make your samples. Unnecessary waste of materials will adversely affect assessment of the stage in which it occurs.

All of your shoes will be assessed from your display after the final deadline.

- **MARKING**

The shoemaking assessment will cover three main areas.

Clicking & Closing will be based on skill in cutting & all closing operations (including preparation & cleaning off).

Lasting & Making will cover bottom stock preparation, lasting, & sole/heel attachment, including any necessary ancillary operations.

Finished shoe will cover socking & all shoe room work, & general shape & appearance.

Each shoe will be assessed for each area mentioned above, & the marks for each shoe aggregated to give an overall mark. The assessment will be made on your skill/competence as demonstrated on all operations performed on your shoes. This will include accuracy, production & preparation or selection of any materials/components needed.

Assessment Area	Max. Marks
Clicking	10
Closing	40
Bottom	40

- **COMMON SKILLS**

Common skills that may be assessed in this section are:

No.7 Transfer skills gained to new & changing situations & contexts.

No.8 Use a range of technological equipment & systems.

Task 6 **STORY BOARD AND DISPLAY** (30 marks)

- **GUIDELINES**

A professional standard of illustration/graphics/display is required throughout. This will also apply to written work that forms part of your presentation.

- **MARKING**

Assessment will be made of the general aesthetic standard of the work as a whole, & the extent to which it communicates the design & business objectives in a clear & professional manner. All the contents of your presentation will contribute to the assessment.

- **COMMON SKILLS**

Common Skills that may be assessed in this section are:

No.9 Apply a range of skills & techniques to develop a variety of ideas in the creation of new/modified products, services or situations.

No.10 Use a range of thought process.

Task 7 **FACTORY PLANNING** (30 marks)

TASKS

Prepare a written plan. You should include an explanation & argument about your choice of systems. If you choose computerized systems or advanced technology then be sure to present an argument to justify your choice. Also provide an A4 draft of your factory plan. You should clearly mention the plot area in sq. Meters & the built up area.

Prepare a factory plan for a production unit suitable to produce the chosen designs in quantities suitable to serve the selected market as detailed in the marketing plan. It shall include a viable project profile for manufacturing 200 pairs to 500 pairs of footwear per day capacity.

The location of all machinery is to be shown & an indication of the workflow.

- **MARKING**

Assessment Area	Max. Marks
The plan & practical details of the layout	15
Contents of the written part of the plan	10
Presentation	5

- **COMMON SKILLS**

Common skills that may be assessed in this section are:

No.11 Communicate in writing.

No.12 Identify & solve routine & non-routine problem.

Task 8 **COSTING** (30 marks)**TASKS**

Select ONE of your shoes & calculate the estimated cost per pair. You are to use the cost estimate sheet used in class. Costs are to be realistic for Indian production.

The selling prices of your shoe are to be shown on the shoe & on the cost estimate sheet.

All cost estimate allowances for materials that are to be cut direct labor costs are to be supported by documents showing how each was calculated. These may be computer printouts or hand completed copies of example forms from your notes.

Prepare a short Project Report of your own shoe-manufacturing unit clearly mentioning the cost of land & building, Cost of machinery & other fixed assets along with working capital required.

- **GUIDELINES**

Upper material allowances must be determined using Stratum or a system based on Russ & Small or others.

Realistic prices for materials should be obtained from the suppliers.

Direct labor costs must be obtained by estimating the Standard Minute Value (SMV) for each operation. An estimated direct labor costs must be produced for each guideline handout.

Fixed expense allowance & overhead recovery rates are quoted in the cost guidelines.

Marks will be lost for poorly presented work that is untidy, illegible, or with corrections.

Assessment Area	Max. Marks
Correct Methods & accuracy in calculating:	
Direct material costs	5
Direct labor costs	5
Expense & overhead costs	5
Cost per pair & selling price	15

PC.1 gather accurate information as per in plant training concepts and requirements

Confirm the in plant training objectives

preparation of conceptual plan

Presentation skills

40

110

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NOS/ Module- In plant Training (Shoe Manufacturing Technology) To understand, record and analyze the manufacturing and management practices followed by footwear manufacturing units.	PC.2 Utilize material management software communicate clearly about the in plant training requirement to the group members Develop creative solution among different options available using latest technology PC.3 Analyze in plant training concepts to meet requirements. PC.4 identify problems with work planning, procedures, output and behavior and their implications prioritize and plan for problem solving communicate problems appropriately to others PC.5 identify sources of information and support for problem solving seek assistance and support from other sources to solve problems PC.6 inspect quality of own or other's work analyze information according to enterprise and work requirements PC.7 use diagnostic skills to identify and determine causes of faults, including interpretation of in-built fault indicators and error codes PC.8 take decisions within if within own jurisdiction or take approval for case outside own jurisdiction PC.9 Prepare cost estimate of the production. PC.10 Prepare production plan with timeline and responsibilities of self and team members PC.11 Carry out mathematical calculation required for production of the footwear carry out mathematical calculation for selection of optimum machining parameters PC.12 Involvement in Departmental procedural system for project Responsibility of task completion PC.13 Validate the In plant training outcomes with specified acceptance criteria PC.14 interpret production line Drawing & detail drawing PC.15 Assign Process & production Planning identify Individual job operations prepare process plan arrange sequence of operations in logical manner PC.16 identification of Priorities in the In plant training for timely completion of the project PC.17 Monitor tool manufacturing process with the help of manufacturing process plan and appropriate management information system available. PC.18 Determine acceptance criteria for the required quality specified in the production. PC.19 Select the required measuring methods/instruments to obtain desired quality PC.20 Carry out Tool fitting, Assembly & Try out PC.21 Inspect Quality of project				
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	Keep record of rejection and rework and undertake self-study to eliminate the same in future project				
NOS/ Module- Employability skills & Entrepreneurship To understand of basic skills of Employability and concept of Entrepreneurship	PC.1 Explain the major applications of MS Office PC.2 Explain the different types of e-commerce PC.3 List the benefits of e-commerce for retailers and customers PC.4 Discuss how the Digital India campaign will help boost e-commerce in India PC.5 Write applications pertaining to various matters. PC.6 Explain power of positive attitude and Importance of commitment PC.7 Explain motivation and the Ways to motivate oneself and Personal goal setting PC.8 Explain the types of Business Communication PC.9 Explain the importance of Effective Communication. PC.10 Explain the Effective & Level of Communication PC.11 Understand of Professional Communication PC.12 Explain communication and Significance of technical communication? PC.13 Explain the methods of listening Skills PC.14 Drafting of Effective Covering Letter PC.15. Explain Key points in CV PC.16 Explain the scope and importance of CV PC.17 Explain the differences between bio-data, CV and Resume. PC.18 Explain verbal and non-verbal Communication PC.19 Explain how to face an interview. PC.20 Explain team work, group work, team formation process PC.21 How to Minimize the team conflicts PC.22 Explain Ethics & values PC.23 Explain the concept of entrepreneurship, and entrepreneurship v/s Management PC.24 Explain the process of project report preparation for setting up a new business PC.25 Explain the role of various schemes and institute for self-employment i.e MSME, DIC, NSIC, SIDBI etc,	100	0	0	0

PC.26 Role of financial institution to support startup				
PC.27 Discuss the importance of saving money				
PC.28 Discuss the main types of bank accounts				
PC.29 Discuss the banking functions.				
PC.30 Differentiate between fixed and variable costs				
PC.31 Describe the different types of insurance products				
PC.32 Discuss the main types of electronic funds transfers				

Annexure VII: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.
Mention the detailed assessment strategy in the provided template.

1. Assessment System Overview:

- Batches are assigned to the Central MSME NSQF Examination Cell via email for the assessment.
- Central MSME NSQF Examination Cell sends the assessment confirmation to respective TC/AB
- Central MSME NSQF Examination Cell deploys the certified Assessor for executing the assessment at respective TC/AB via online / offline mode.
- Central MSME NSQF Examination Cell & respective TC/AB Internal Examination Cell monitors the assessment process & records

2. Testing Environment:

- Central MSME NSQF Examination Cell confirms the Assessment location, date and time
- For number of candidates more than 30 separate assessors are assigned for the assessment.
- Central MSME NSQF Examination Cell & respective assessor confirms that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Each TC Submits the Question Bank for the individual subject Theory & Practice separately, submits to Central MSME NSQF Examination Cell and it is verified by the Central MSME NSQF Examination Cell Committee members.
- Questions are mapped to the specified assessment criteria
- All the assessors & Trainers are well qualified & trained to carry out the specified task.

4. Types of evidence or evidence-gathering protocol:

- Online Link is send by Central MSME NSQF Examination Cell to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the Central MSME NSQF Examination Cell through the online Meeting Link. Students are also required to join for the online link for verification by the Central MSME NSQF Examination Cell
- Assessment Photographs are shared with the Central MSME NSQF Examination Cell & are also with the respective TC.

5. Method of verification or validation:

- Online Link is send by Central MSME NSQF Examination Cell to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the Central MSME NSQF Examination Cell through the online Meeting Link. Students are also required to join for the online link for verification by the Central MSME NSQF Examination Cell

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored

On the Job:

1. Each module (which covers the job profile) will be assessed separately.
2. The candidate must score 60% in each module to successfully complete the OJT.
3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:
 - Videos of Trainees during OJT
4. Assessment of each Module will ensure that the candidate is able to:
 - Effective engagement with the customers
 - Understand the working of various tools and equipment's

Annexure VIII: Acronym and Glossary

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.

Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf

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