

NSDA Reference*To be added by NSDA***CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE****Name and address of submitting body:**

Directorate General of Training (DGT),
Ministry of Skill Development & Entrepreneurship (MoSDE)
Pusa, New Delhi

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List of documents submitted in support of the Qualifications File

1. Qualification document – Apparel Manufacturing Technology
2. Curriculum for Apparel Manufacturing Technology under Apparel Sector for Modular Employable Scheme (MES)
3. List of number of trainees of trained at ATDC Centres across country.
4. List of industries which placing candidates of this course.
5. (A Report- Human Resource and Skill Requirement in the Textile & Clothing Sector (2013-17,2017-2022)-Volume 22 by NSDC)

SUMMARY

Qualification Title	Apparel Manufacturing Technology (AMT)
Qualification Code	GAR 804
Nature and purpose of the qualification	NCVT Certificate in job role of Apparel Manufacturing Industry. The module enables trainees to get familiar with works related to supervising, manufacturing techniques and Quality of Garments at export and domestic market.
Body/bodies which will award the qualification	National Council for Vocational Training (NCVT)
Body which will accredit providers to offer courses leading to the qualification	GOI Ministries and State departments who have adopted MES qualifications accredit training providers for their programs and schemes (only in case of SDIS schemes Training providers accredited by States on behalf of NCVT)
Body/bodies which will carry out assessment of learners	Independent Agency empanelled as Assessing Bodies (ABs)
Occupation(s) to which the qualification gives access	After completion of the course the candidate will be equipped to work in the : <ul style="list-style-type: none"> • Export Manufacturing firms • Domestic Garment Industry • Self-employment
Licensing requirements	-NA-
Level of the qualification in the NSQF	Level 4
Anticipated volume of training/learning required to complete the qualification	1040 hours
Entry requirements and/or recommendations	Individuals should have passed in 12th Class Examination & Minimum 18 years of age
Progression from the qualification	The trainees shall be qualified for one or more of the following job roles: Apparel Production Executives Production Managers

Planned arrangements for the Recognition of Prior learning (RPL)	NA		
International comparability where known	-NA-		
Date of planned review of the qualification.	2 years after approval of the Qualification		
Formal structure of the qualification			
Title of component and identification code.	Mandatory/ Optional	Estimated size (learning hours)	Level
DGT/MES/GAR/N01: Foundation Course in English & Personality Development	M	80 Hrs	4
DGT/MES/GAR/N01: Industrial Safety & Production Environment	M	40 Hrs	4
DGT/MES/GAR/N01: Pattern Making Techniques, construction and Development	M	220 Hrs	4
DGT/MES/GAR/N01: Apparel Production Technology	M	180 Hrs	4
DGT/MES/GAR/N01: Sewing Techniques & Garment Construction	M	220 Hrs	4
DGT/MES/GAR/N01: Foundation Course in Computer Application	M	40 Hrs	4
DGT/MES/GAR/N01: Textile Studies	M	80 Hrs	4
DGT/MES/GAR/N01: Quality Control	M	100Hrs	4
DGT/MES/GAR/N01: Apparel Merchandising	M	80 Hrs	4
Total		1040 Hrs	

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum Document or a Qualification Pack.

Curriculum for Apparel Manufacturing Technology under Apparel Sector for Modular Employable Scheme (MES) attached as annexure.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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SECTION 1

ASSESSMENT

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.

Criteria for selection of Assessment body

Minimum Eligibility Criteria

- The applicant shall be a legal entity, registered in India.
- The applicant should have in last two years carried out competency / skill assessment for minimum 1000 persons or should have trained minimum 1000 persons and got tested by some agencies such as NCVT, Sector Skill Council, State, board/ council and reputed industry Association. Organizations having experience in testing of competencies would be preferred.
- In case more number of applications is received, preference will be given to those organizations that have trained/assessed larger number of persons.
- The applicant is not a Training Provider (TP) in the same sector and in same State, but it can be TP in other States, other Sectors or other scheme.
- The applicant shall have access to technically qualified personnel of repute and integrity in different industrial trades and technology.
- The applicant shall develop dedicated human resource for handling the processes in assessment process.
- The applicant shall declare its linkages with other organization(s), if any to ensure independence and avoid any conflict of interest.
- Institutions/ Firms blacklisted by any Government Department shall not be considered in this RFP.
- The Applicant shall provide the information and supporting documents towards their claims.
- Initially provisional empanelment will be awarded to the organizations based on the evaluation of eligibility of the Assessing Body based on the criteria.
- Based on the module and sector that will be handled by the assessor, the assessing body shall send its assessor for competency evaluation in the institutions which will be notified by DGT time to time. The assessor will be assessed to ascertain the competency to carry out competency based assessment.
- Final empanelment would be granted subject to the Assessing Body fulfilling the following conditions of getting the competencies of 2 assessors of each module per State evaluated in the institutes notified by the DGT. Testing charges for evaluating the competencies of the assessors will be borne by the Assessing Bodies.

(1) Assessment process:

The assessment process aims to test and certify the competency of the persons through Assessing Bodies who seek certification of their skills acquired informally or the persons who have been trained at the registered TPs. The competency

assessment of the candidate is being done by the Assessor Competency Evaluation (ACE) qualified assessor of the independent Assessing Bodies (AB) which is not involved in training delivery, to ensure an impartial assessment. ACE is conducted to evaluate the competency of the assessor. In the assessment process, identification of competency, ways to measure the competency and deciding on the type of evidence that has to be collected are the responsibility of the Assessing bodies whereas administering the assessment and collecting the evidence and reporting the results are the responsibility of the assessors. The assessment process consists of following components:

Theory Test:

- It must assess the knowledge which is essential for a person to do the job. Without this knowledge, the person will not be able to do the job.
- The questions shall be of objective type involving selection of correct response.
- The question paper should contain sketches/ diagrams/ photographs/ drawing to overcome the problems of reading comprehension.
- The test shall be of short duration.

Practical Test:

It shall be able to test:

- Manipulative skills to handle tools and equipment.
- Speed in doing work.
- Accuracy maintained
- Quality in workmanship.
- Sequence of performance.
- Economical use of material.
- Neatness & housekeeping.
- All the competencies prescribed in the course curriculum.

The Assessment Parameters adopted during assessment:

- Knowledge of equipment, limitation of use of tools and equipment, and methods & procedure.
- Understanding of functioning of equipment & tool, criteria to be used in selecting tools for given job, and the process of measurement.
- Skill in finishing to required measurement, handling measurement & calculations, handling tools and equipment with ease, finishing neatly.
- Abilities to take corrective steps, use correct work habits, take measurements, complete the job within stipulated time, and adopt safe practices.
- Attitude towards the work, accurate & precise work and co-workers and supervisor.

(2) Duration of Test:

The duration of test vary according to the task. Theory test shall be of 1 hour duration and practical test for engineering trade shall be 6 to 8 hours minimum and non-engineering it shall be of 4 hours minimum. Assessing Bodies while preparing practical test shall ensure that candidate shall be tested on all the competencies prescribed in the course module.

The marking pattern and distribution of marks for the qualification are as under:

Terminal competency	Maximum marks
Application of knowledge	30
Care for tools & equipment	15
Economic use of materials	15
Safety consciousness	10
Speed	10
Accuracy	15
Quality of workmanship	20
Amount of work	15
No. of attempts	10
Attitude	10
Total maximum marks for Practical	150
Maximum marks for theory	50

(3) Minimum pass mark:

Minimum passing marks for Practical is 60%

Minimum pass marks for theory is 40%

(4) Testing and certifications process for the course:**Pre- Assessment**

- Regional Directorate of Apprenticeship Training (RDAT) allot batches to the Assessing Bodies on rotational basis depending on the presence of assessing body in that region sector wise and the assessing body in coordination with Training Provider and assessor should confirm and schedule the assessment.
- The Assessing Body confirms the date of assessment in consultation with Training Provider and communicate to the RDAT/State.
- The Assessing Body forms a panel of ACE qualified assessors of high repute and integrity, sector wise and location wise.
- The assessment of the candidates is done by the Assessing Bodies in designated Testing Centre (TC). The Testing Centre where the assessment is carried out and Testing Centre can be Training Center also. The Assessing Body select the TC based on the location, accessibility and the infrastructure facilities available for conducting the test.
- The testing center is approved by the RDAT in case of courses run by DGT, MSDE. In case where the courses are run by the Sate Govt., TC is approved by State Govt... Training conducted by other dept. at their accredited Training Centre, same training centre is designated as testing centre.
- The Assessing Body provide details of selected TC along with skill areas in which assessment can be done at the TC, to the RDAT and respective States/UTs.
- The Assessing Bodies depute ACE qualified assessors for assessments whose details are furnished by Assessing Bodies to DGT in advance.
- Assessing Body has to communicate to the Testing Centre following:
 - Details of the candidates to appear for assessment in various MES courses.
 - Details of Assessors selected with their contact details.
 - Requirement of infrastructure, raw material etc.
 - Testing charges to be reimbursed to Testing Centre

Preparation of assessment tools and prerequisites:

- The assessment tools contain components for testing the knowledge, application of knowledge and demonstration of skill. The knowledge test is objective paper based test or short structured questions based. The application of knowledge is verified based on questioning or seeking response for a case. Demonstration of skill is verified based on practical demonstration by the candidate.
- The type of assessment tools to be used for assessment are to be prepared in advance by the assessing body in accordance to the guidelines as prescribed below:
 - Define the performance objective – This is based on the course objectives and competency in workplace as prescribed by MES curriculum. The written tests and practical tests assess all the competencies mentioned in course curriculum.
 - In case of practical test, the operations which are to be observed in case of process test (how a particular task is being carried out) are clearly mentioned and the specifications of the final product in case of product test (the task in itself).
 - List of tools, infrastructure, and equipment to carry out the assessment are prepared based on the test instruments that are planned to be used.
 - Written directions are given to the candidates before the task is attempted.
 - Scoring system, observations and rating is prepared for each competency which is going to be assessed.

Pre-assessment activities for Assessor at the Testing Centre

- Verification of student credentials: The assessor check the application form submitted by the candidates and verify the photo pasted on the forms with candidates who are taking assessment in accordance with checklist
- Verification of testing centre for adequate infrastructure, tools and equipment: The assessor verifies the availability of infrastructure, tools and equipment for carrying out both theory and practical assessments. The minimum requirement prescribed under the MES modules is used as benchmark.
- Attendance verification: The assessor checks the attendance register of candidates and instructors until the time biometric attendance system is put in place. Once the biometric attendance system is in place, the biometric attendance of assessors along with that of trainees/candidates has to be captured during the assessment at the start as well as end of theory and practical test.
- Attendance during assessment: The assessor takes the attendance of all the students who appear for assessment after the successful verification of the student credentials and before the start of the assessment. The assessor also provides his/her attendance during start and end of the practical and theory test.
- Verification of the documents related test carried out by Training Provider/ Testing Centre (TC) for candidates who were not able to produce document in support of having passed the qualification.

Assessment activities

- Before the start of assessment, read out the instructions to the students.
- The written test & practical test is for fixed duration as prescribed.

- It is ensured that individual attention is given to all the candidates during the practical test.
- The assessor takes photographs during the assessment process of all the students in the testing centre, the students during theory and practical tests, practical lab/workshop showing the equipment to be used for assessment, the assessor along with the students appearing for the assessment.

Post-assessment activities

- The assessor consolidates all the theory and practical test papers and ensures that all the mandatory information is filled. The total score for each student should be calculated and recorded in result sheet.
- The assessor send the attendance sheet, result sheet, answer papers by courier/post to the assessing body immediately after the completion of assessment
- Uploading outcome of the assessment and photos in portal by assessing body
- Assessing body upload the results within one week of the assessment date.
- Photos taken by the assessors during assessment are sent to respective RDATs through e-mail only. Non dispatch of photos of assessment to RDAT makes assessment void. Re-assessment of such batch is done by the Assessing Bodies on their own expenses.
- Details of assessors are emailed to RDAT at the time of uploading the outcome of the assessment. Outcome of the assessment is not accepted in case details of assessors are not emailed to respective RDAT.
- Maintaining assessment records
- Publishing of results and Certificate issue
- RDAT verifies the outcome of the assessment, details of assessors, photos and print and sign the certificates for successful candidates and send it to the respective candidates. In case of direct candidate's assessment, the Certificates are sent to the Assessing Body.
- Certificates which will be issued carry photograph of the trainee, name of Training Provider, start date & end date of training and duration of training once the systems for the same are put in place.
- The certificate is issues under the aegis of NCVT. All the communications are done through portal.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.

Title of Component: Apparel Manufacturing Technology (AMT)

Outcomes to be assessed		Means of Assessment
Assessable Outcome	Assessable Criteria	
Acquire Basic knowledge of English and communication with report writing	Should be able to : AO1. Make simple Sentences: Simple, Compound, Complex, Assertive, Interrogative, Imperative, Exclamatory, with knowledge of common errors	Theory Test
	AO2. Write in English using Noun, Pronoun, verb, adjectives ,interjection, conjunction preposition	Theory Test
	AO3. Use the concept of Tenses- Simple, Progressive and Prefect Tenses in Present, Past and future form	Theory Test
	AO4. Develop Vocabulary communication skill, thinking ability and logical reasoning, interview skills	Practical Test
Have knowledge of safety & health practices at Factory Floor.	AO1. Demonstrate safety precautions: •While using different hand tools, raw materials •With safety signs and first aid •On the machines & equipment	Practical Test
	AO2. Describe the importance of Discipline ,work ethics ,health and Hygiene, Environment, Labour welfare	Theory Test
Pattern Making Techniques ,construction and Development :	AO1. Identify Pattern Making tools, equipment and terminology	Theory/ Practical Test
	AO2. Demonstrate the following within the given accuracy and good finish, with pattern detailing: Pattern for the basic block, skirt, sleeves, collars, shirt, trouser, Grading and draping techniques for shirt and skirt	Practical Test
Apparel Production Technology :	AO1. Describe different types of production systems, Structure & Status of Manpower in RMG Industry Lay out of the different departments of the Garment unit.	Theory Test
	AO2. Able to carry out preparatory work for cutting, production, Finishing & Packaging. Lay out of the different departments of the Garment unit.	Theory Test
	AO4. Describe Work study and time study for Production Planning	Theory Test
	AO5. Describe basic garments in relation to: • Machines used • Raw materials used • Stitches • Seams • Workflow in garment construction • Techpack and terminology	Theory Test

	<ul style="list-style-type: none"> • Garment analysis • Finishing • Packaging 	
Sewing Techniques & garment construction	AO1. Demonstrate SNLS Industrial Sewing M/c. and other sewing machines used in the garment industry.	Practical Test
	AO2. Developing samples with defined quality of different seams, necklines, collars, bodice, pockets, cuffs	
	AO3. Do dice block stitching and finishing of neckline ,darts, plackets, zipper attachments	
	AO4. Make Garment: <ul style="list-style-type: none"> • Skirt • Trouser • Shirt • Women top/dress 	
Foundation Course in Computer Application	AO1. Describe basic computer terminology and windows Overview	Theory/P ractical
	AO2. Perform Documentation using MS word, Me Excel	
	AO3. Demonstrate the use of E-mail and internet	
Textile Studies	AO1. Describes the fundamentals of textiles, Yarns, & Fabrics	Theory test
	AO2. Describe different types of Fabrics, Fabric finishes, dyeing and Printing	
Quality Control	AO1. Describe Quality and various techniques for Quality control	Theory test
	AO2. Inspect quality of the raw material & accessories. In-Process and Final inspection with understanding of various defects.	Practical test
	AO3. Describe different international quality standards AQL , AOQL etc.	Theory test
Apparel Merchandising	AO1. Describes the Apparel Marketing and merchandising with terminology and the merchandising calendar. Merchandising planning tools and techniques, Garment costing, Documentation	Theory test
<p>Means of assessment 1</p> <p>The assessment comprise of</p> <ul style="list-style-type: none"> • Theory Examination: MCQ, VIVA Voice, essay type questions • Practical assessment: Role plays, Demonstration, skill oriented sample development within stipulated time 		
<p>Pass/Fail</p> <p>The trainee is judged as pass in the qualification if minimum passing marks is obtained in each test i.e Theory and Practical.</p> <p>Minimum pass mark: Minimum passing marks for Practical is 50% Minimum pass marks for theory is 40%</p>		

SECTION 2
EVIDENCE OF LEVEL

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OPTION A

Title/Name of qualification/component: Apparel Manufacturing Technology			
Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	The job holder is expected to have the knowledge in the field of work like: <ul style="list-style-type: none"> – Various Garment Manufacturing Techniques – Managing small domestic garment units – Complete garment construction work in Apparel Sector 	<ul style="list-style-type: none"> – The job requires activities routine like machine and man management for PO & selection of different types of fabrics, accessories and Machines, as per the spec sheet provided. 	4
Professional knowledge	The job holder is required to have knowledge in the related field of work like: <ul style="list-style-type: none"> – Methods and Work Techniques of Garment Construction – Equipments & tools used in the industry – Measurement methods & work study for higher efficiency on the shop Floor 	The job holder understands the basic of measurement techniques, making patterns, & sewing different types of Garments etc., involved in his/her job role	4
Professional skill	The job holder is needs to know and understand : <ul style="list-style-type: none"> – Constructing various designs with given accuracy and standards – Maintaining safety and healthy practices at work sites 	The job role includes the limited skill to perform garment construction work as per Spec drawings which is routine supervision.	4
Core skill	The job holder is expected to be Possess knowledge and skills regarding: <ul style="list-style-type: none"> – Understand Spec sheets and Machine Layouts 	The Job holder will able to complete the work with specified precision and accuracy. The work will be within the tolerances as per the Spec Sheet provided.	4

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

20th NSQC 09.04.2018

Title/Name of qualification/component: Apparel Manufacturing Technology			
Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none">– Understand the raw materials and their Quality– Types of different Garments, Manufacturing Process and Finishing		
Responsibility	The job holder works under the supervision of his superior, as per his/her directions. He/ She is responsible for his designated task as and when given by the superior.	The job holder works under the supervision of his superiors like getting production done within the timeline according to the Spec with specified tolerance and is responsible for his own limited work assigned.	4

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SECTION 3

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

An estimated 33 million people are employed in the Textile sector in India. This is expected to increase to 45 million by 2012. The Ready Made Garments (RMG) sector, which accounted for 17% of the employment, is estimated to contribute 25% to the total employment in the textile sector.

It is estimated that the PFCE on clothing will grow at a CAGR of 7.5% between 2008 and 2022. Based on projected growth of GDP and exports, we expect that the exports of textiles will grow at a rate of 11% to 11.5%. Thus, the overall T&C sector will grow at a CAGR of 9.5% to a size of Rs. 6,730 billion.

Keeping in mind the above factors and the growth of the industry, we have projected the human resource requirement for the T&C sector. It is expected that the overall employment in the sector would increase from about 33 to 35 million currently to about 60 to 62 million by 2022.

(A Report- Human Resource and Skill Requirement in the Textile & Clothing Sector (2013-17,2017-2022)-Volume 22 by NSDC)

Students trained under Apparel Manufacturing Technology in the last three years are total of around 2500 across different ATDC centres.

These students were successfully trained and placed in various garment manufacturing units across India. ATDC sponsored by Apparel Export Promotion Council has 8800 member exporters who readily absorb students trained at ATDC. The various Export oriented garment units where the students have been placed in last three years are as per Annexure.

What is the estimated uptake of this qualification and what is the basis of this estimate?

India's weaving and knitting sector is highly fragmented, small-scale, and labour-intensive. This sector consists of about 38.9 lakh handlooms as well as 4,70,000 power loom units operating around 21.1 lakh power looms.

The number of students trained and placed in the AMT course is around 2500 in the last three years

(A Report- Human Resource and Skill Requirement in the Textile & Clothing Sector (2013-17,2017-2022)-Volume 22 by NSDC)

What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?

The Qualification has been mapped with the National Qualification Register, maintained by NSDA to ensure the qualification does not duplicate. Qualification with name of Industrial Engineer (IE) Executive, QC Executive- Sewing Line, Sewing Technology are available in NQR with similar outcomes. But in the present

qualification there is an additional module for English & personality Development, Computers. This enables a candidate to proficiently work in the industry.

NCO MAPPING: Reference NCO- 2004/7433.05, AMH/02101 and NCO-2004/8263.90, AMH/Q1701

**What arrangements are in place to monitor and review the qualification(s)?
What data will be used and at what point will the qualification(s) be revised or updated?**

- 1) DGT interacts with training providers to gather feedback in implementation and updation of qualification.
- 2) Monitoring of results of assessments
- 3) Employer feedback will be sought post-placement
- 4) In a recent initiative, a Mentor Council (MC) for the relevant sector has been formed to review the curriculum of this qualification under the sector.
- 5) CSTARI, the research wing of DGE&T, reviews and updates the qualification, in consultation with industries and other stakeholders, on a regular basis.

The qualification is reviewed after every 2 years for updation according to latest Technologies and practices.

SECTION 4

EVIDENCE OF PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

An Individual has vertical pathway to promote to higher designations in an organisation in garment construction sector. Can further undergo specialization course to excel to the higher post in jobs listed above.

Progression chart:

Supervisor > Assistant Manager > Manager > Self-Employed

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