

**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

**Name and contact details of individual dealing with the submission**

**Name:** Shri. S.D Lahiri

**Position in the organization:** Deputy Director General (T&E,SDI)

**Address if different from above:**

**Tel number(s):** 011-25847028

**E-mail address:** sdilahiri59@yahoo.com

**List of documents submitted in support of the Qualifications File**

1. Qualification document- Apparel Pattern Making- CAD
2. Curriculum for Apparel Pattern Making- CAD under Garment Sector for Modular Employable Scheme (MES)
3. Executive Summary of Human Resource and Skill Requirements in Textile & Clothing Sector (2013-17,2017-22) Volume 22 by NSDC

**SUMMARY**

|           |  |  |
|-----------|--|--|
| <b>1</b>  | <b>Qualification Title</b>   | Apparel Pattern Making- CAD  |
| <b>2</b>  | <b>Qualification Code, if any</b>  | GAR805   |
| <b>3</b>  | <b>NCO code and occupation</b>   | 7532.0902<br>Advance Pattern Maker, Garment (CAD/CAM)  |
| <b>4</b>  | <b>Nature and purpose of the qualification (Please specify whether qualification is short term or long term)</b>   | Nature of the Qualification is Certificate in job role of Apparel Pattern Maker-CAD<br>The purpose of the qualification is to enable candidate to make patterns for various types of garments using CAD software.  |
| <b>5</b>  | <b>Body/bodies which will award the qualification</b>  | National Council for Vocational Training (NCVT)  |
| <b>6</b>  | <b>Body which will accredit providers to offer courses leading to the qualification</b>                            | 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)                            |
| <b>7</b>  | <b>Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)</b> | -NA-   |
| <b>8</b>  | <b>Occupation(s) to which the qualification gives access</b>   | After completion of the course the trainees shall be qualified for one or more of the following job roles: <ul style="list-style-type: none"> <li>• Assistant Pattern Master,</li> <li>• CAD Operator or Sampling Coordinator.</li> </ul>                |
| <b>9</b>  | <b>Job description of the occupation</b>   | Apparel Pattern Maker (CAD/CAM) uses the CAD system to recreate the pattern design techniques by transferring ideas to the computer, digitizing and modifying patterns and also the use of CAM to get the patterns and lays cut out in the actual sizes. |
| <b>10</b> | <b>Licensing requirements</b>  | -NA-   |
| <b>11</b> | <b>Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)</b>           | -NA-   |
| <b>12</b> | <b>Level of the qualification in the NSQF</b>  | Level 4  |
| <b>13</b> | <b>Anticipated volume of training/learning required to complete the qualification</b>                              | 1040 Hours   |

## NSQF QUALIFICATION FILE

(Approved in 21th NSQC dated 03 August 2018)

|           |   |  |              |
|-----------|---|--|--------------|
| <b>14</b> | <b>Indicative list of training tools required to deliver this qualification</b>               | Mentioned in curriculum attached                           |              |
| <b>15</b> | <b>Entry requirements and/or recommendations and minimum age</b>                              | Passed 12th class examination                              |              |
| <b>16</b> | <b>Progression from the qualification (Please show Professional and academic progression)</b> | Quality Controller in cutting department                   |              |
| <b>17</b> | <b>Arrangements for the Recognition of Prior learning (RPL)</b>                               | RPL arrangements are not planned under this qualification. |              |
| <b>18</b> | <b>International comparability where known (research evidence to be provided)</b>             | -NA-   |              |
| <b>19</b> | <b>Date of planned review of the qualification.</b>   | 5 years after approval of the Qualification                |              |
| <b>20</b> | <b>Formal structure of the qualification<br/>Mandatory components</b>                         |  |              |
|           | <b>Title of component and identification code/NOSs/Learning outcomes</b>                      | <b>Estimated size (learning hours)</b>                     | <b>Level</b> |
| (i)       | DGT/MES/GAR/N51: Get Familiarized with the Safety Methods and Precautions                     | 90   | 4            |
| (ii)      | DGT/MES/GAR/N62: To work on various garment sewing machines                                   | 200  | 4            |
| (iii)     | DGT/MES/GAR/N63: Pattern making for various types of garment                                  | 300  | 4            |
| (iv)      | DGT/MES/GAR/N64: Pattern making for various types of garment using CAD                        | 450  | 4            |
|           | <b>Sub Total (A)</b>  | 1040   |              |
|           | <b>Optional components</b>  |  |              |
|           | <b>Title of component and identification code/NOSs/ Learning outcomes</b>                     | <b>Estimated size (learning hours)</b>                     | <b>Level</b> |
|           |   |  |              |
|           |   |  |              |
|           | <b>Sub Total (B)</b>  |  |              |

**NSQF QUALIFICATION FILE**

(Approved in 21th NSQC dated 03 August 2018)

|                           |      |  |
|---------------------------|------|--|
| <b><u>Total (A+B)</u></b> | 1040 |  |
|---------------------------|------|--|

NSQC Approved

**SECTION 1**  
**ASSESSMENT**

|    |  |
|----|--|
| 21 | <p><b>Body/Bodies which will carry out assessment:</b></p> <p>DGT empaneled Assessing Bodies (ABs)</p>   |
| 22 | <p><b>How will RPL assessment be managed and who will carry it out?</b></p> <p>RPL arrangements are not planned under this qualification.</p>  |
| 23 | <p><b>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.</b></p> <p><b>Criteria for selection of Assessment body</b></p> <p>Minimum Eligibility Criteria</p> <ul style="list-style-type: none"> <li>• The applicant shall be a legal entity, registered in India.</li> <li>• 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.</li> <li>• In case more number of applications is received, preference will be given to those organizations that have trained/assessed larger number of persons.</li> <li>• 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.</li> <li>• The applicant shall have access to technically qualified personnel of repute and integrity in different industrial trades and technology.</li> <li>• The applicant shall develop dedicated human resource for handling the processes in assessment process.</li> <li>• The applicant shall declare its linkages with other organization(s), if any to ensure independence and avoid any conflict of interest.</li> <li>• Institutions/ Firms blacklisted by any Government Department shall not be considered in this RFP.</li> <li>• The Applicant shall provide the information and supporting documents towards their claims.</li> <li>• Initially provisional empanelment will be awarded to the organizations based on the evaluation of eligibility of the Assessing Body based on the criteria.</li> <li>• 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.</li> </ul> |

- 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%

**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.

#### **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.

Please attach most relevant and recent documents giving further information about assessment and/or RPL.

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



**ASSESSMENT EVIDENCE**

**Complete a grid for each component as listed in “Formal structure of 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.*

**24. Assessment evidences**

**Title of Component:** Apparel Pattern Making-CAD

| <b>Outcomes to be assessed/NOSs to be assessed</b>                            | <b>Assessment criteria</b>  | <b>Means of Assessment</b> |
|---|---|----------------------------|
| DGT/MES/GAR/N51<br>: Get Familiarized with the Safety Methods and Precautions | AO1. Demonstrate the safety precaution, first aid practice, artificial respiration, electrical safety precautions.  | Practical Test             |
|   | AO2. Demonstrate the following while work: <ul style="list-style-type: none"> <li>• select, use, maintain and store – tools, equipments &amp; clothing safely</li> </ul>                  | Practical Test             |
|   | AO3. Explain Sewing and Fashion Terminology, Machines, Equipments and Tools   | Theory Test                |
| DGT/MES/GAR/N62<br>: To work on various garment sewing machines               | AO1. Demonstrate Practice of seams, samples and garment components  | Practical Test             |
|   | AO2. Practice of various exercises on Industrial sewing machine using different work aids and machine attachments   | Practical Test             |
|   | AO3. Construction of complete garment: men’s shirt, dress, trouser and T-shirt  | Practical Test             |
| DGT/MES/GAR/N63<br>: Pattern making for various types of garment              | AO1. Handle different types of fabrics  | Theory Test                |
|   | AO2. Draft basic bodice block, sleeve, shirt and trouser block <ul style="list-style-type: none"> <li>□ Develop various styles of collar, sleeves, shirts, cuffs, pockets etc.</li> </ul> | Practical Test             |
|   | AO3. cut various upper & Lower garments, cutting techniques <ul style="list-style-type: none"> <li>□ Construct complete garments: top, skirt, shirt, trouser etc.</li> </ul>              | Practical Test             |
| DGT/MES/GAR/N64   | AO1. Demonstrate pattern making,  | Practical Test             |

## NSQF QUALIFICATION FILE

(Approved in 21th NSQC dated 03 August 2018)

|  |   |                |
|--|---|----------------|
| : Pattern making for various types of garment using CAD  | grading and marker making tools using CAD software  |                |
|  | AO2. Prepare mini-marker and development of commercial patterns using digitizer and plotter | Practical Test |
| <b>Means of assessment 1</b><br>The assessment comprise of <ul style="list-style-type: none"><li>• Theory Examination MCQ, VIVA Voce</li><li>• Practical assessment Role plays, Demonstration</li></ul>  |   |                |
| <b>Pass/Fail</b><br>The trainee is judged as pass in the qualification if minimum passing marks is obtained in each test i.e Theory and Practical.<br>Minimum pass mark:<br>Minimum passing marks for Practical is 60%<br>Minimum pass marks for theory is 40% |   |                |

NSQC Approved

## NSQF QUALIFICATION FILE

### SECTION 2

#### 25. EVIDENCE OF LEVEL

#### OPTION A

| Title/Name of qualification/component: Apparel Pattern Making-CAD |   | 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 and display skills in the field of work like: <ul style="list-style-type: none"> <li>– Types of Textiles</li> <li>– Drafting &amp; Cutting Patterns for various garments</li> <li>– Patter Making using CAD</li> </ul> | The job requires basic knowledge of Making patterns for various garments using CAD as per the requirements of the customer                          | 3          |
| Professional knowledge  | The job holder is required to have knowledge in the related field of work like: <ul style="list-style-type: none"> <li>– units of measurement</li> <li>– Drafting &amp; Cutting patterns</li> <li>– Taking Body Measurements</li> </ul>                                 | The job holder understands the basic facts, process and principles involved in his job role like drafting & cutting patterns using CAD software.    | 3          |
| Professional skill  | The job holder is needs to know and understand : <ul style="list-style-type: none"> <li>– Drafting &amp; Cutting Patterns</li> <li>– Taking Body Measurements</li> </ul>  | The job role only includes the understanding and knowledge of textiles, body measurements etc.  | 3          |
| Core skill  | The job holder is expected to be Possess knowledge and skills regarding: <ul style="list-style-type: none"> <li>– Communicate with customer to understand the requirements</li> <li>– Understands the body measurements</li> </ul>                                      | The Job holder will able to address the customer requirement, perform the drafting & cutting work as per the requirement under specified tolerance. | 3          |
| Responsibility  | The job holder works under the supervision of his superior, as per his directions. He is responsible for his designated task as and when given by the superior.   | The job holder works under the supervision of his superiors and is responsible for his own limited work assigned.                                   | 3          |

**SECTION 3**  
**EVIDENCE OF NEED**

|           |  |
|-----------|--|
| <p>26</p> | <p><b>What evidence is there that the qualification is needed? What is the estimated uptake of this qualification and what is the basis of this estimate?</b></p> <p><b>Need of the Qualification:</b> The annual total investments in textiles and clothing sector increased from INR 59500 crores in 2001–02 to INR 2 lakh crores in 2011–12, growing at an average rate of 12.8 percent per annum. India is the second-largest producer and exporter of textiles and clothing in the world.</p> <p>Textiles and clothing strategic plan 2011–16 to achieve manufacturing growth rate by 10 percent, exports by 15 percent in 2016. Integrated Skill Development Scheme to spend INR 1900 crores to train 1.5 million workers in the textiles sub-sector</p> <p>Changing lifestyles and consumption patterns are expected to drive the sector’s supply of casual wear with an 11 percent growth, which would drive demand for workforce with specialised skills in western formals design, blended fabrics and increased application work on clothes. Skill gaps are prominent at the entry level — operators, designers, merchandisers. The current training curriculum for the entry-level roles is more theoretical and doesn’t address practical issues sufficiently. The current training curriculum for the entry-level roles is more theoretical and doesn’t address practical issues sufficiently</p> <p>Constant growth of the sector and its contribution to the economy implies that the manpower has and would continue to play an important role in the sector. However, the changing structure of the sector with a shift in production across the value chain (i.e. increased focus on yarn and fabric to final products such as garments, home textiles and technical textiles), there would be a change in the skills and characteristics of potential candidates<br/>(Human Resource and Skill Requirements in Textile &amp; Clothing Sector (2013-17,2017-22) Volume 22 by NSDC)</p> <p><b>Industry Relevance:</b> List of Trade Committee members is attached in curriculum</p> <p><b>Usage of the Qualification:</b> Also about 75 candidates have been trained and among which 49 have been placed under the scheme of DDU-GKY till Dec 2016.</p> <p><b>Estimated uptake:</b> According to the NSDC report, the textiles and clothing sector plays a significant role in employment generation. The sector employs 15.23 million people, of which 2.3 million are factory workers. Currently, 15.23 million people are employed in the textile sub-sector across yarn and fabric, home textiles, technical textiles and readymade garments. Human resource requirement in the sector is expected to reach 21.54 million by 2022 translating into 6.31 million additional employment opportunities during the period 2013-22.</p> |
|-----------|--|

## NSQF QUALIFICATION FILE

|  |   |
|--|---|
|  | <p>The Integrated Skill Development Scheme for the textiles and apparel sector, including jute and handicrafts, was initiated by the Ministry of Textiles, Government of India, in July 2013 to impart skills to 1.5 million workers in the next five years (2012-17).</p> <p>(Human Resource and Skill Requirements in Textile &amp; Clothing Sector (2013-17,2017-22) Volume 22 by NSDC).</p> |
|--|---|

|    |  |
|----|--|
| 27 | <p><b>Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences</b></p> <p>-NA-</p>  |
| 28 | <p><b>What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification</b></p> <p>The Qualification has been mapped with the National Qualification Register, maintained by NSDA to ensure the qualification does not duplicate. Qualification of Advanced Pattern Maker (CAD/CAM) is available on NQR with similar outcomes.</p>   |
| 29 | <p><b>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? Specify the review process here</b></p> <ol style="list-style-type: none"><li>1) DGT interacts with training providers to gather feedback in implementation and updation of qualification.</li><li>2) Monitoring of results of assessments</li><li>3) Employer feedback will be sought post-placement</li><li>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.</li><li>5) CSTARI, the research wing of DGT, reviews and updates the qualification, in consultation with industries and other stakeholders, on a regular basis.</li></ol> <p>The qualification is reviewed after every 5 years for updation according to latest Technologies and practices.</p> |

Please attach most relevant and recent documents giving further information about any of the topics above.

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

## **SECTION 4**

### **EVIDENCE OF PROGRESSION**

|    |  |
|----|--|
| 30 | <p><b>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?</b></p> <p><b><i>Show the career map here to reflect the clear progression</i></b></p> |
|----|--|

## NSQF QUALIFICATION FILE

|  |   |
|--|---|
|  | <p>An Individual has vertical pathway to promote to higher designations in an organisation. Can further undergo specialization course to excel to the higher post in jobs listed above or can start with up his/her own business.</p> <p>Progression chart:<br/>Apparel Pattern Making- CAD &gt; Supervisor</p> |
|--|---|

Please attach most relevant and recent documents giving further information about any of the topics above.

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

NSQF Approved