

**QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY**

**Name and address of submitting body: Automotive Skills Development Council**

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1/6, Siri Institutional Area,  
August Kranti Marg (Khel Gaon Marg)  
New Delhi – 110049**

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

**Name: Sunil K Chaturvedi**

**Position in the organisation: Chief Executive Officer**

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

1. Qualification Pack :- ASC/Q3603
2. Documents related to QP Development(**Refer to folder “Common Files”**)
  - (i) RFP for NOS Development
  - (ii) Selection of consultant to Develop NOS
  - (iii) Supporting Document from GC meetings
  - (iv) Skill GAP Study report
  - (v) Occupational Map
  - (vi) Career path ways
  - (vii) MOU with Industry
  - (viii) List of Companies participating in QP Development Process
  - (ix) List of Validating Companies

### 3. QUALIFICATION FILE SUMMARY

<b>Qualification Title:</b>		<b>ASSEMBLY LINE MACHINE SETTER (ASC/Q3603)</b>		
<b>Body/bodies which will assess candidates :</b>		<b>ASDC (AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL)</b>		
<b>Body/bodies which will award the certificate for the qualification:</b>		<b>ASDC (AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL)</b>		
<b>Body which will accredit providers to offer the qualification:</b>		<b>ASDC (AUTOMOTIVE SKILLS DEVELOPMENT COUNCIL)</b>		
<b>Occupation(s) to which the qualification gives access:</b>		<b>ASSEMBLY LINE MACHINE SETTER (in Manufacturing Sector)</b>		
<b>Proposed level of the qualification in the NSQF: Level 6</b>				
<b>Anticipated volume of training/learning required to complete the qualification:</b>		<b>: 450 Hrs (These are only notional number of hours. The training must achieve competency outcomes as define by the QP/NOS)</b>		
<b>Entry requirements / recommendations:</b>		<b>Diploma in Mechanical Engineering/BSc</b>		
<b>Minimum Age</b>		<p><b>: 1 ASDC recommends that candidates should seek full employment not before attaining an age of 18 years.</b></p> <p><b>2 However, as per Factories Act1948 :</b></p> <p><b>- No one can be employed before attaining the age of 15</b></p> <p><b>- A person between the age of 15 – 18 (both inclusive) could be employed only with employers who follow safety and security systems &amp; processes and also that the employee in this bracket will be working under supervision.</b></p> <p><b>3 Please note that under the Factories Act 1948, different States may have slightly varying provision which need to be adhered to.</b></p>		
<b>Progression from the qualification:</b>	<b>Vertical</b>	<b>Horizontal</b>	<b>Cross Sector</b>	
	Manager/Sr Manager Machine Shop	Similar roles in Casting, Forging, Machining	Similar roles in other Manufacturing Sectors like ELECTRONICS	
<b>Planned arrangements for RPL.</b>		<b>: Pilots have been planned exclusive of any training input.</b>		
<b>International Comparability</b>		<b>:Not at this stage</b>		
<b>Formal structure of the qualification</b>				
<b>Title of unit or other component</b> (include any identification code used)		<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
1. ASC/N3616:Manage various machine setting operations		<b>Mandatory</b>	<b>450 Hrs (These are only notional number of hours. and can vary based on training delivery partners analysis of the</b>	<b>5</b>
2. ASC/N0016: Understanding process requirements, ensuring process implementation and suggest basic improvements		<b>Mandatory</b>		<b>5</b>

3. ASC/N0017: Manage production related operations of the a Shift/ Line on a day to day basis	Mandatory	candidate profile in the batch)	5
4. ASC/N0018: Managing the team on the Line/ Shift on a day to day basis	Mandatory		5
5. ASC/N0006B: Maintain a safe and healthy working environment at the work place	Mandatory		5
6. ASC/N0022: Ensure implementation of 5S activities at the shop floor and the office area	Mandatory		5

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

Give details of the document here:

**Qualification pack is attached.**

## **SECTION 1**

### **ASSESSMENT**

#### **Name of assessment body:**

If there will be more than one assessment body for this qualification, give details.

**ASDC will conduct assessment through ASDC-accredited assessment agency and ASDC-approved assessors.**

- 1 Manipal – City & Guilds Pvt Ltd
- 2 Honda Motor India Pvt. Ltd.
- 3 TATA Motors
- 4 KAMT
- 5 Mettl-Assessment Science Expert
- 6 India Skills Pvt. Ltd.
- 7 Green Arrows Safety Management (P) Ltd.
- 8 The Indian Institute of Welding
- 9 Multi Skills Assessors Guild
- 10 Prima Competencies Pvt. Ltd.
- 11 TRENDSETTERS SKILL ASSESSORS PRIVATE LIMITED
- 12 VR Skill & HR Solutions
- 13 Ace Assessments Pvt. Ltd.
- 14 Cognix Knowledge Services (P) Ltd
- 15 Confederation of Indian Industry
- 16 Skills Mantra Edutech Consulting India Pvt. Ltd.

#### **Will the assessment body be responsible for RPL assessment?**

Give details of how RPL assessment for the qualification will be carried out and quality assured.

**Yes. Standard assessment process will be followed for the given qualifications.**

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

**Assessment documents:**

**Quality Assurance - Assessment & Certification**

ASDC Certificate is Auto industry's own certificate and the certificate is expected to carry an assurance of quality. Therefore, the certified candidate should be able to demonstrate all round skills as expected by industry standard ie ASDC NOS/QP.

In order to achieve this objective ASDC needed to have an approach that is process driven whereby the outcomes meet the quality objectives and also display consistency.

Certification is the outcome of Assessment Process. The Process in turn is derived from an overall strategy.

**ASDC Assessment Strategy**

ASDC Assessment Strategy has two components:

- 1 Broad Guidelines provided by NSDC QRC (*Qualifications Registration Committee*)
  - 2 ASDC's own *sector specific* overarching strategy, covering all job roles.
    - Any specific assessment approach relating to a particular job role.
- 1 Broad Guidelines provided by NSDC QRC (*Qualifications Registration Committee*):
- a. Assessment to be conducted by SSC as per competency output defined in the NOS/QP and the assessment criteria provided in the NOS/QP
  - b. Assessment to be carried out by a third party Assessment Body duly affiliated to the SSC.
  - c. Practical and face to face Viva evaluations, where applicable, to be carried out only by the SSC approved assessor deployed by the Assessing Body deputed by SSC for the given assessment.
  - d. Cut off marks for certification could be in the vicinity of 70% level but individual SSC to refine & modify this criteria to suit the sectorial needs.
  - e. Assessing Body to declare results with due concurrence of the SSC.
- 2 ASDC's own sector specific strategy covering all job roles :
- 2.1 ASDC assessments will be comprehensive and cover all aspects of acquired knowledge, practical skills and also basic ability to communicate. Accordingly, evaluation process would include:
    - i. Theory/Knowledge test
    - ii. Practical demonstration test
    - iii. Face to Face Viva
  - 2.2 Theory/Knowledge assessment will be carried out on line through a link provided for each assessment that generates a random paper from a bank of questions available at the back end.
    - Exception to an online test in favour of Paper Test would be subject to non-availability of requisite broad band and/or hardware.
    - On line test would be conducted in the presence of an ASDC assessor till web enabled proctoring is deployed.

- 2.3 ASDC assessor would be conducting Practical and Viva as per the criteria provided in the NOS/QP.
- 2.4 ASDC assessor would be carrying out Practical assessment for job roles such as in sales by way of role playing method.
- 2.5 ASDC cut offs for accepting a candidate for certification:
- Automotive industry has already attained a level of globalization and is on the way to becoming even more integrated into the global supply chains with a big focus by OEMs on sourcing from India. This translates to expectation of high quality skills. In fact, the global integration process would start putting demands on skill quality standards to be in line with transnational standards.
- 2.6 Also there is an ever increasing quality demands placed by domestic customers.
- 2.7 Further, the structuring of our industry is such that the different organizations spread across the OEM, Tier1, 2 manufacturing spectrum are expected to follow common quality standards. Similarly, OEMs and their Dealerships and Service Workshops also require to follow common quality standards. This implies that employees need to follow technical discipline, team work and quality processes.
- 2.8 ASDC aims to build a quality brand for its certification that clearly meets our industry's expectations.
- 2.9 The other important consideration is the Level notification by NSQF (National Skills Qualifications Framework) which provides a structure of skills ladder to be followed in the country. This ladder describes the entire skills space to be covered in 10 levels from Level 1 (for mostly menial jobs) and upto Level 10(for mostly strategy level jobs)
- 2.10 Keeping above points in mind ASDC evolved an acceptance criteria as follows:
- Broadly, overall cut offs to be :
 

Level 1	60%
Level 2	65%
Level 3	70%
Level 4-10	75%
  - Specific Theory/Practical/Viva cut offs to be as per detailed matrix for each QP.
- 2.11 In line with international practice there is a provision for moderation of marks to account for borderline cases. This process also covers differential moderation possibility across Theory/ Practical/ Viva.
- 2.12 Moderation could also be necessitated owing to variation between assessors and strictness in marking. This moderation to be carried out by concerned Assessing Body in consultation with ASDC.
- 2.13 In addition to recording markings of the candidate evaluation, the Assessor will also be recording general observations for every batch as per ASDC format. This record will be useful in carrying out (2.11-2.12) above.
- Any specific assessment approach relating to a particular job role:
    - o ASDC could consider *only* online test for some job roles such as in Design Engineering /Quality
  - ASDC assessment process would also provision a suitable re-evaluation mechanism which would offer a fair chance to the TP/candidates for Obtaining an accurate outcome.
  - ASDC assessment process would also provision re assessment of a batch in case the TP has enough reason to

opt for this on payment of the due assessment fee.

### **Assessment Process**

- ASDC Training Partner will intimate ASDC for readiness of a batch for assessment preferably 15 days before the intended assessment.
- Within 3 working days ASDC will finalize an Assessing Partner for carrying out the assessment
- Assessing Partner will deploy one or more ASDC approved assessor For carrying out the assessment.
- Theory/Knowledge test of the approximate duration of 30-60 minutes will be conducted online for which the online link will be generated by the ASDC Technology Partner and shared with Assessment Partner.
- Online test will be conducted in the presence of ASDC assessor.(*ASDC is encouraging development of technology enabled proctoring and when this is ready, the online test could be conducted without requiring human proctoring*)
- Exception to an online test in favour of Paper Test would be subject to non-availability of requisite broad band and/or hardware device. Moreover, this could be allowed only after ascertain genuinity of request.
- ASDC assessor would be conducting Practical and Viva as per the criteria provided in the NOS/QP.
- ASDC Assessment Partner will ensure that the assessor to be deployed has complete understanding of the ASDC Assessment Process and the QP/NOS relevant to the assessment.
- Assessor would be reaching the venue well in time and review and on the ground verify the batch information already provided by TP.
- Assessor will then proceed to conduct the assessment as per ASDC Format starting with the attendance.
- Assessor would be capturing Viva and Practical marks on a device that has ASDC assessment link. Technology systems deployed in ASDC assessment process have provision for instantly capturing assessor evaluations in only the standard NOS/QP aligned format.
- In addition to recording markings of the evaluation, the Assessor will also be recording general observations for every batch as per ASDC format as appended below. This record will be useful in carrying out result review process.

### **Result Processing**

- ASDC Assessment Partner responsible for Technology Platform will convert the assessment data captured by Assessor on the device into result matrix and share the same with ASDC
- ASDC Assessment cell will view the results for compliance to process and / or need for moderation in consultation with the Assessing Partner to arrive at final result for the batch as per ASDC acceptance Criteria.
- Assessing Partner will publish finalized results on data base for viewing of the Training Partner
- ASDC would issue a certificate after due verifications of candidate authenticity by way of a unique identification number such as Aadhaar.
- Certificates will be shared preferably in digital form with Training Partners
- Training Partners would be authorized to distribute certificate to candidates after printing them on a standard sheet as per ASDC template.

### **Re-evaluation of batch result**

- Results once published will be treated as final. However, as per ASDC Assessment Strategy, there is need for provisioning a re-evaluation of results if desired by a TP essentially to cover a case where the

TPs internal assessments are at large variance with the results.

- Re-evaluation will be done batch wise.
- ASDC Assessment cell will carry out re-evaluation in two steps:
  - o Check for totalling error, if any
  - o Use statistical tools where required to establish a pattern and extent of borderline cases.
  - o Refer to the Assessor feed back form for the given batch
  - o Use a weightage reference table to establish priority of type of assessment eg Theory or Practical or Viva
  - o Where required, share the findings with Assessment Partner for review and concurrence.
  - o Establish a modified range of acceptance based on above
  - o In case of need for moderation based on assessor level variation, to consult the Assessing Partner/Assessor and facilitate moderated values.
  - o Re do the results based on above process
  - o Share the revised results with TP

#### **Quality Assurance & Audit**

While the Assessment Process based on a well-defined strategy as above, does have an in built quality assurance, ASDC also has a plan that augments assurance.

This entails a Quality Audit process as defined below :

There will be a 2 tier Audit of the assessment process:

##### **Tier 1 Audit**

- 1 ASDC Assessor will be required to submit a report for each assessment carried out. This report will be as per ASDC format as described in the Assessment Process. The format of the report aims to capture details of the Training Delivery process, soft & hard infrastructure, Training of Trainer, industry connect and overall approach to training delivery vis a vis expectations of ASDC QP/NOS.
- 2 Each Assessment Partner is required to carry out and submit Tier 1 audit reports as per a plan and frequency agreed with ASDC.
- 3 ASDC will continuously review the Tier 1 audit reports for any alarming observation or trend.
- 4 ASDC will develop and execute a suitable action plan to redress the situation as deemed necessary for a given case.

##### **Tier 2 Audit**

- 1 ASDC to carry out a Tier 2 level Audit as per a plan being developed.
  - a. Tier 2 audit will be carried out by a third party contracted by ASDC for the purpose.
  - b. Tier 2 audit will provide adequate coverage for variables such as Assessing Partner, Assessor, TP and geographical variations.
- 2 ASDC Assessment cell to review audit findings at least once every month or on sos basis.
- 3 Based on review findings as in 2 above, ASDC to decide on a suitable corrective action plan and execute the

same.

- 4 ASDC to record directional needs for refinement of Assessment process specially for incorporation of Technology that could enhance reliability and speed of assessments.

Please attach any documents giving further information about assessment and/or RPL.

Give details of the document(s) here:

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## ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

### CRITERIA FOR ASSESSMENT OF TRAINEES

**ASSEMBLY LINE MACHINE SETTER**

**ASC/Q3603**

#### Guidelines for Assessment

- 1 ASDC Assessments will be carried out as per overall assessment strategy and process given in Section 1.
- 2 Accordingly, ASDC Assessment has three elements: 1. Theory/Knowledge 2. Viva and 3. Practical.
- 3 Theory/Knowledge test will be conducted online (*ref:- point no. 2.2* in section 1 above).
- 4 Viva, Practical (test will carried out by ASDC approved assessor deployed through ASDC Affiliated Assessment Partner. (*Ref :- point no. 2.3 to 2.4* in section 1)
5. The Qualification cutoffs will be as per point 2.10 in Section 1 above.

Title of NOS/Unit/Component:

Assessable Outcomes	Assessment criteria	Total Mark	Marks Allocation		
			Theory	Viva	Practical
ASC/N3616:	<b>Manage various Machine setting operations</b>				
<b>Manage all shift Operations</b>	PC1. Ensure that the assembly team have fully understood the job/task mentioned in the work order PC2. Ensure that the team members understand and follow all the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by supervisors/ master technicians PC3. Address that all queries shared by the team are resolved by the supervisor and queries beyond the scope of the supervisor are highlighted to the concerned team PC4. Ensure that the fitters have selected the right drawings and sketches to enable them to join the required parts as mentioned in the Work Instructions/ Control Plan/SOPs/Work Order PC5. Ensure material availability in the stores for the assembly team as per the production plan& BOM shared for the shift/day and escalated issues to the concerned in case material unavailability PC6. Ensure for the specified assembly equipment, fixtures and verification setup and electrical and electronic systems selected by the fitter for conducting the			60	45

	<p>process.assembly fitter arranges the parts to be assembled in the given position , feeding systems.</p> <p>PC7. Ensure that the fitter team is using the right types of screws etc. for fitting the required components and also validate that the assembly of components is as per the process laid out in the process manual/Work Instructions by verification of the “First off piece”.</p> <p>PC8. Ensure adherence to the TAKT time prescribed by the Process excellence team for every assembly station and ensure that delays at a particular assembly station are identified and rectified as soon as possible</p> <p>PC9. Ensure that every manufactured vehicle/aggregate component is checked and tested as per the SOP/WI and a full inspection of the Auto Component/Automobile is carried out by the operator to detect any quality related defects related to body surface etc.</p> <p>PC10. Ensure that all the errors observed get noted in the log books as per the format shared with the operators and the errors get tagged/ marked immediately</p> <p>PC11. In case of electrical circuits, ensure visual inspection of the bundled electrical and electronics wiring, circuits, harness, connectors and terminal orientation</p> <p>PC12. Ensure that all the tests mentioned for electrical and mechanical assembly are conducted as per the checklist and necessary steps are taken to remove the defects identified and proper inspection is carried out of key</p>				
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	<p>electrical and electronic components</p> <p>PC13. Ensure that all fixtures, tools, equipment and spare parts are stored in an organized way and calibrated as indicated in the equipment and manual and the designated area as defined in the 5S manual of the organization and are regularly cleaned to prevent accumulation of dust, moisture and waste material</p> <p>PC14. Coordinate with various functions like material management, stores, paint shop, assembly line, safety, production planning to ensure communication of required information and resolution of queries</p> <p>PC15. Ensure that the operator and helper are using the required Personal Protective Equipment like Goggles etc. at the time of conducting the fitting, torqueing and tightening process</p>				
<b>Ensure proper machine setting</b>	<p>PC16. Set machine and processing equipment to specification.</p> <p>PC17. Ensure adjusting of machine settings to maintain process to specification</p> <p>PC18. Ensure proper functioning of conveyors, nut runners, torque meters, wrenches for effective line running</p> <p>PC19. Carry out process monitoring checks using Statistical Process Control techniques</p> <p>PC20. Analyse and ensure implementation of process improvement solutions</p> <p>PC21. Ensure coordination in development teams to introduce new materials, products or process technology</p>			60	45
	<b>Sub Total</b>	<b>300</b>	<b>90</b>	<b>120</b>	<b>90</b>
<b>ASC/N0016:</b>	<b>Understanding process requirements, ensuring implementation &amp; suggest basic</b>				

	improvements					
<p><b>Understanding all the requisite processes in detail and ensuring implementation</b></p>	<p>PC1. Display detailed understanding of all the requisite processes to be adopted for completing the work order through reading the process manuals/ Work Instructions/Standard Operating Procedures for the production job</p>					
	<p>PC2. Ensure first level drafting of process manuals, Work Instructions, Control Plans, process flow charts to enable the team to easily understand and implement the process</p>					
	<p>PC3. Ensure proper display of Work Instructions, Control Plans and flow charts at the correct places on the shop floor to enable timely and proper view of the documents</p>					
	<p>PC4. Share knowledge of processes , inputs and outputs with the operators and in order to enhance their skill levels</p>					
	<p>PC5. Maintain work flow by monitoring steps of the processes, setting variables, observing control points and equipment</p>					
	<p>PC6. Monitor various process parameters on a regular basis and ensure compliance to agreed standards (e.g. ambient air quality, stack monitoring, water quality monitoring etc.)</p>					
	<p>PC7. Ensuring recording and reporting procedures and systems are in place</p>					
	<p>PC8. Facilitating corrections to malfunctions within process control points</p>					
	<p>PC9. Ensure that all the tools and measuring instruments used on the shop floor are</p>				20	15

	<p>inspected, tested and calibrated internally/ externally as per the schedule</p> <p>PC10. Support the Shop Head/ Process Head in arranging for the requisite usage certificates for the tools and equipment as per the internal guidelines of the organization</p> <p>PC11. Ensure 5S implementation in the production line by analysing possible areas of systems and process improvements and ensure implementation of the recommended measures to address the gaps</p> <p>PC12. Ensure successful implementation of the completed Poka Yoke and kaizen on the running line</p> <p>PC13. Support the Shop Head/ Process manager in conducting first level audit of the manufacturing process on the shop floor</p>				
<p><b>Process Improvement</b></p>	<p>PC14. Ensure optimum resource utilization and wastage reduction through process improvements, Kaizens, TQM, Poka Yoke etc. in the shift</p> <p>PC15. Provide inputs for analysis of breakdown trends and current maintenance process to identify areas for improvement to achieve cost savings and reduce breakdown timing</p> <p>PC16. Identify areas of improvement in the existing processes/systems and take measures to adhere to the identified Kaizen/ process improvement initiatives</p> <p>PC17. Ensure inputs from the line operators are considered while designing for various Poka Yoke , kaizen initiatives</p> <p>PC18. Encourage team members/</p>			<p>20</p>	<p>15</p>

	<p>Supervisor/ operators to suggest quality improvement measures through suggestion schemes, evaluate feasibility of the ideas and discuss their implementation with seniors</p> <p>PC19. Support in analysing internal &amp; external rejection data, planning and ensuring implementation of the corrective measures</p> <p>PC20. Ensure team has understanding of basic analytical tools like Why Why analysis, 7 QC tools, TQM principles to analyse various problems and design process improvement activities</p> <p>PC21. Support the Process Engineering/ Industrial Engineering team in modifications of the process flow, process/ plant layout to improve the process TAT, operational ergonomics, work quality etc.</p>				
<b>Implementation of various initiatives</b>	<p>PC22. Take overall responsibility to ensure adherence to Safety standards by all employees and establish zero accident practice in the section</p> <p>PC23. Implement various business excellence techniques like Kaizen, 5S initiatives, etc. to enhance productivity for the plant/ shift</p>			20	15
	<b>Sub Total</b>	<b>150</b>	<b>45</b>	<b>60</b>	<b>45</b>
<b>ASC/N0017:</b>	<b>Manage the production related operations of the shift/ line on a day to day basis</b>				
<b>Manpower Management</b>	<p>PC1. Undertake effective shift planning based on manpower allocation and shift handling of place right manpower on the right workstation in coordination with Production In-charge to achieve production targets</p>			20	15

	PC2. Support the Shop Head/ Process head in finalizing the shift rosters for the week and month based on the production plan available					
<b>Material Management</b>	<p>PC3. Send inventory requirements to Stores and Purchase department and follow up with stores and purchase to ensure timely receipt of material (Spares, Consumables)</p> <p>PC4. Ensure that the incoming raw material quality is inspected and meets the production requirement</p> <p>PC5. Ensure that the material and work piece movement on the shop floor conforms to the TAT time prescribed in the SOP/ Work Plans so that production targets are met for the line/ shift</p>				20	15
<b>Supervise Production Operations</b>	<p>PC6. Ensure that the production plan shared by the PPC team is fulfilled during the shift/ across lines</p> <p>PC7. Coordinate with various functions like material management, stores, paint shop, assembly line, quality, safety, production planning etc. to ensure communication of required information and resolution of queries</p> <p>PC8. Responsible for End of Line Inspection under supervision</p> <p>PC9. Ensure that the operators and helpers have the required tools and equipment at the start of the process</p> <p>PC10. Identify &amp; implement action steps to reduce losses and wastages during shift operation and ensure minimum rejection of components</p> <p>PC11. Observe and note the consumption of energy, fuel, steam on the production line and utilize these inputs for optimization of various factors of production</p>				20	15

	<p>PC12. Support the maintenance team in finalizing the preventive maintenance schedule for the shop</p> <p>PC13. Ensure that the operator and helper are using the required Personal Protective Equipment like Goggles, masks, gloves and other PPE's at the time of conducting the painting operation</p>				
<b>Conformance to Product and Process Quality</b>	<p>PC14. Conduct random incoming quality inspection of material and provide the relevant feedback on the same to the store</p> <p>PC15. Conduct quality inspection of the process parameters, lab parameters and WIP products and provide necessary feedback to the line leaders</p> <p>PC16. Conduct quality inspection of the first sample/batch to ensure that the quality of the product produced meet customer requirements</p> <p>PC17. Conduct inspection and analysis of the defects observed in the process and products</p>			20	15
<b>Data Collation and Analysis</b>	<p>PC18. Prepare daily and monthly production MIS reports to match actual performance vis-à-vis the targets and report the same to Production In-chart</p> <p>PC19. Verify the production and material movement related data entries in the system ( manual/ ERP) for the shift and ensure correctness of the data</p> <p>PC20. Ensure compilation of data of breakdown maintenance and reporting the same to the maintenance team</p> <p>PC21. Collaborate with the maintenance team in conducting detailed breakdown analysis to understand problems, look out for process/ machine</p>			20	15

	<p>modifications and resolve the issues</p> <p>PC22. Conduct random sampling of the process parameters, finished goods and WIP products and provide necessary feedback to the line leaders</p> <p>PC23. Collaborate with the Quality Management and Inspection team in conducting detailed analysis to resolve issues</p> <p>PC24. Collaborate with various supervisors to capture process data points as mentioned in the internal operating guidelines for data analytics</p> <p>PC25. Support the Shop Head/ Process Head in analysing the various data points related to production, maintenance, manpower deployment, material management, costs etc.</p> <p>PC26. Support the Shop Head/ Process Head in creating various analytical presentations required for process/ shop/ plant review</p>				
	<b>Sub Total</b>	<b>250</b>	<b>75</b>	<b>100</b>	<b>75</b>
<b>ASC/N0018:</b>	<b>Managing the team in the shift on a day to day basis</b>				
<b>Engaging the shop floor work force through employee communication and employee engagement</b>	<p>PC1. Ensure operators and helpers on the production line/ shift are aware of the job expectations on a daily basis</p> <p>PC2. Ensure that the operators are aware of the production targets and the timelines required to process a work order as finalized in the production plan</p> <p>PC3. Involve operators and helpers for the daily floor meeting/ morning meetings/ staff meetings to communicate information intended for them</p> <p>PC4. Ensure communication to</p>			15	15

	<p>line operators/ helpers on any changes in policies/ processes by the organization through required verbal/ written mechanisms</p> <p>PC5. Ensure participation of employees in various engagement initiatives organized at the plant and other place by the organization</p> <p>PC6. Involve operators and helpers in Quality Circles, TQM &amp; Kaizen meets, Brainstorming sessions, safety drills etc. to increase their involvement in manufacturing operations</p> <p>PC7. Ensure availability of tea, snacks, drinking water and basic hygiene facilities at the shop floor for the operative workforce</p> <p>PC8. Escalate issues to concerned staff in case of any issue related to operative deployment and engagement</p>				
<p><b>Finalizing manpower deployment</b></p>	<p>PC9. Finalize along with the process manager, the shift planning and manpower deployment for the shift/ line as per the proposed production plan</p> <p>PC10. Support the process manager in creating week wise shift rosters for the shift/ line manpower and ensure rotation of manpower as per the organizational norms and guidelines</p> <p>PC11. Maintain the information on leaves/ IN Out time keeping and shift/ line overtime for the operatives and helpers and share the information with the concerned as and when required</p> <p>PC12. Identify skilled manpower for the process and ensure periodic up - dation of Skill</p>			<p>15</p>	<p>10</p>

	<p>Matrix/ Skill Chart for the shift/ line/ process area</p> <p>PC13. Ensure identification and deployment of right skilled people at the right places on the line/ process area</p>				
<p><b>Employee Performance Measurement and Employee Development</b></p>	<p>PC14. Ensure that all the operative manpower is aware of the production targets, production plan and daily productivity targets</p> <p>PC15. Track the daily performance of the operators and helpers during the shift and note the achievement levels in a manual register/ online IT enabled system</p> <p>PC16. Provide feedback to the operators and helper in case of any process deviation observed</p> <p>PC17. Provide feedback to managers pertaining to performance appraisals of operators and helpers</p> <p>PC18. Ensure that the operatives are trained and are aware of the processes which need to be followed on the shop floor during the production process</p> <p>PC19. Support the manager and the training team in training of entry level operators and helpers in the plant</p> <p>PC20. Share knowledge of processes , inputs and outputs with the operators to enhance their skill levels</p> <p>PC21. Other than technical trainings, support the team by delivering trainings related to quality and safety for the operators and helpers</p> <p>PC22. Drive a culture of creativity and innovation in the team by given the team members opportunity to think out of box and express their thoughts</p>				<p>15</p> <p>10</p>

<p><b>Grievance Management for Operators and Helpers</b></p>	<p>PC23. In case the operating staff has any queries, ensure that the queries are resolved either by self or escalated to the concerned person</p> <p>PC24. Listen to issues related to workmen problems/ work men grievances/ Complaints/ Personal Problems etc. for the operators and helpers</p> <p>PC25. Resolve issues which are under the purview of the supervisor and escalate the ones which need higher intervention to the concerned team</p> <p>PC26. Counsel employees for any work related issues or any personal problems highlighted by the employee</p>			15	10
	<b>Sub Total</b>	<b>150</b>	<b>45</b>	<b>60</b>	<b>45</b>
<b>ASC/N0006B:</b>	<b>Maintain a safe and healthy working environment at the work place</b>				
<p><b>Identify and report the risks identified</b></p>	<p>PC1. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise</p> <p>PC2. Identify areas in the plant which are potentially hazardous/ unhygienic in nature</p> <p>PC3. Conduct regular checks on machine health to identify potential hazards due to wear and tear of machine</p> <p>PC4. Ensure that all equipment are tested of safety conformance as per the cycle/ timelines identified in the organization</p> <p>PC5. Inform the shop head and the safety team about the potential risks identified in the processes, workplace area/ layout, material used, malfunctioning of safety related equipment</p>			20	15

	<p>etc.</p> <p>PC6. Inform the maintenance team about machine breakdowns, damages which can potentially harm man/ machine during operations and analyse their defects to prevent any future damage to men/ machine</p> <p>PC7. Ensure that all risk involving and hazardous areas near the work place are marked/ tagged in order to caution the users of the work area/ machinery</p> <p>PC8. Create awareness amongst other by sharing information on the identified risks. Ensure that periodic awareness sessions are conducted for the helpers and operatives to make them aware of the risks identified</p>				
<p><b>Create and sustain a Safe, clean and environment friendly work place</b></p>	<p>PC9. Support the Safety team in risk identification and creation of a risk mitigation plan</p> <p>PC10. Train team members on safety and health related issues</p> <p>PC11. Ensure that all team members operate the machine using the recommended Personal Protective Equipment (PPE) and also ensure self-usage of the required PPEs</p> <p>PC12. Ensure that all operatives follow the instructions given on the equipment manual describing the operating process of the equipment to prevent any hazard</p> <p>PC13. Ensure that all team members follow the Safety, Health and Environment related practices developed by the organization</p> <p>PC14. Ensure that a clean and safe working environment near the work place is maintained and that</p>			<p>20</p>	<p>15</p>

	<p>there is no spillage of chemicals, production waste, oil, solvents etc. in the working area</p> <p>PC15. Ensure that the first aid safety kit at the work place/ shop floor contains the requisite items to respond to minor injuries. Also may sure that the operatives and helpers are made aware of these items and their usage</p> <p>PC16. Ensure that a documented record of all minor and major injuries is kept and updated on the shop floor</p> <p>PC17. Ensure that the waste disposal is done in the designated area and manner as per organization SOP</p> <p>PC18. Attend all safety and fire drills to be self-aware of safety hazards and preventive techniques and ensure that the team participate in all the required safety and fire drills</p> <p>PC19. Participate in all safety related initiatives like Safety Committee participations, Safety Day Celebrations etc.</p> <p>PC20. Maintain high standards of personal hygiene at the work place</p> <p>PC21. Ensure that any activity performed by the team members which may negatively impact their health and productivity is immediately brought to notice by the supervisor</p> <p>PC22. Periodically counsel and train employees on good health and safe working practices.</p> <p>PC23. Inform the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be planned for others</p>				
	<b>Sub Total</b>	<b>100</b>	<b>30</b>	<b>40</b>	<b>30</b>

<b>ASC/N0022:</b>	<b>Ensure implementation of 5S activities at the shop floor &amp; the office area</b>				
<b>Ensure proper sorting of items at the work place</b>	<p>PC1. Ensure all recyclable materials put in designated containers</p> <p>PC2. Ensure no Tools, fixtures &amp; jigs are lying on unless in use and no un-necessary items is lying on workbenches or worksurfaces unless in use</p> <p>PC3. Ensure that the operators and other team members are segregating the waste in hazardous/ Non Hazardous waste as per the instructions</p> <p>PC4. Ensure that all the operators are following the technique of waste disposal and waste storage in the designated bins</p> <p>PC5. Segregate the items which are labelled at red tag items for the process area and keep them in the correct places</p> <p>PC6. Ensure that all the tools/ equipment/ fasteners/ spare parts are arranged as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions</p> <p>PC7. Check for return of any type of extra material and tools to the designated sections and sure that no additional material/ tool is lying near the work area</p> <p>PC8. Oversee removal of unnecessary equipment, storage, furniture, unneeded inventory, supplies, parts and material</p> <p>PC9. Ensure that areas of material storage areas are not overflowing</p> <p>PC10. Ensure proper stacking and storage of the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also</p>				

	enable easy sorting when required				
<b>Ensure proper documentation and storage – streamlining &amp; organizing the workplace</b>	<p>PC11. Ensure that the team follows the given instructions and checks for labelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.</p> <p>PC12. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions</p> <p>PC13. Ensure that organizing the workplace takes place with due considerations to the principles of wasted motions, ergonomics, work &amp; method study .</p>				
<b>Ensure cleaning of self and the work place</b>	<p>PC14. Ensure that the area has floors swept, machinery clean and is generally neat and tidy. In case of cleaning, ensure that correct displays are maintained on the floor which indicate potential safety hazards</p> <p>PC15. Ensure workbenches and work surfaces are clean and in good condition</p> <p>PC16. Ensure adherence to the cleaning schedule for the lighting system to ensure proper illumination</p> <p>PC17. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</p>				
<b>Ensure standardization</b>	<p>PC18. Ensure that daily cleaning standards and schedules to create a clean working environment are followed across the plant</p> <p>PC19. Oversee that various cleaning and organizing tasks have been developed and assigned for the work area</p> <p>PC20. Ensure logical and user friendly documentation and file management for all activities across the plant and create guidelines around</p>				

	<p>standardization of processes</p> <p>PC21. Ensure timely creation and sharing of the 5S checklists</p> <p>PC22. Ensure that the 5S manual are available as per the timelines</p>				
<b>Ensure sustenance</b>	<p>PC23. Ensure team cooperation during the audit of 5 S activities</p> <p>PC24. Ensure that workmen are periodically trained to address challenges related to 5S</p> <p>PC25. Participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC26. Oversee that the staff/operators are trained and fully understand 5s procedures</p> <p>PC27. Ensure that all the guidelines for What to do and What not to do to build sustainability in 5S are mentioned in the 5S check lists/ work instructions and are easily searchable</p> <p>PC28. Ensure continuous training of the team members on 5S in order to increase their awareness and support implementation</p> <p>PC29. Ensure that all visual controls, notice boards, symbols etc. at the manufacturing place are created, working and are put up as per the requirement</p>			20	15
	<b>Sub Total</b>	<b>50</b>	<b>15</b>	<b>20</b>	<b>15</b>
	<b>Total Marks</b>	<b>1000</b>	<b>300</b>	<b>400</b>	<b>300</b>

**Means of assessment 1: Theory/Knowledge test to be carried out online for which question paper is generated by the computer from the question bank repository. Only in an exceptional case where connectivity and hardware availability is a challenge, the same would be carried out in pen and paper mode after due approval ( Please refer section 1)**

**Means of assessment 2:- Viva / face to face interview and practical test to be carried out by ASDC assessor as per the QP Assessment Criteria. ( Please refer section 1)**

**cut off criteria for certification (Marks obtained in %):**

75
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**\*based on weighted %**

## SECTION 2

### EVIDENCE OF NEED

**What evidence is there that the qualification is needed?**

This job role was identified during industry engagement for development of Occupational Map. The total number of industry validation with us are 95, spread in 36 Large, 34 Medium and 25 Small. Out of which 50 are related to manufacturing, spread in 15 large, 23 medium and 12 small. (Details of the Industry validation are attached in Common Files)

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

Skill GAP analysis carried out by a reputed research agency provided a broad estimate of demand. The report can be referred in the Common Files. ASDC is taking initiative to develop a labour market information database that would peg the demand more accurately- job role wise as well as based on geographical spread. Key enabler segments for the core segments of the Automotive Industry include Auto Insurance, Financiers, Mechanics, and Auto Dealers etc.

Based on the current growth profile in the Indian auto Industry, it is expected that an additional 2~2.5 million employment opportunities per annum will be created in the Indian auto industry over the next decade. The details below provide the manpower requirement at various levels:

- Skill Level 1 – 4, people, Demand for such manpower is expected to be around 15 – 18 lakh per annum.
- Skill Level 5 -6 people working as supervisors on the shop floor. Demand for such manpower if expected to be around 4 lakh per annum.
- Skill Level 5- 7 people includes primarily engineers (B.E., M. Tech., MS), working in managerial grade, and demand for such manpower is expected to be around 1 lakh per annum.
- Skill Level 6-10 people are executives, including engineers and doctorates, and demand for such manpower is expected to be around 0.5 lakh per annum.

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

Qualifications Registration Committee's (QRC) diligence process ensures no duplication.

**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?**

ASDC actively seeks feedback from all stakeholders. The feedback is to be collated and rationalized for updating QP by the designated review schedule.

Review date: 25/12/15

## SECTION 3

Summary of Direct Evidence (from learning outcomes): Process/Machine Setters oversees assembly operation as per the required norms and assembly of aggregates in the vehicles & includes controls for machine operation, temperature and pressure including all machine settings

Justify the NSQF level allocated to the QP by building upon the five descriptors of NSQF. Explain the reasons for allocating the level to the QP.

Generic NOS is/are linked to the overall authority attached to the job role.

**ASSEMBLY LINE MACHINE SETTER  
ASC/Q3603**

Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
<p>This OS is about preparing a person with wide range of specialised skills to carry out tasks like:</p> <p>Manage various machine setting operations;</p> <p>Understanding process requirements, ensuring process implementation and suggest basic improvements;</p> <p>Manage production related operations of the Shift/ Line on a day to day basis;</p> <p>manage production related operations of a Shift/ Line on a day to day basis;</p> <p>Managing the team on the Line/ Shift on a day to day basis.</p>	<p>The individual on the job must have factual and theoretical knowledge of:</p> <p>relevant standards and procedures followed in the company;</p> <p>different types of products manufactured by the company;</p> <p>different types of assembling processes and component storage process ( Kitting);</p> <p>different types of bolting guns/ riveting guns/ Hand held/ Power drills used in the assembly process , size for tightening equipment like spanners, screw drivers, wrenches, pliers testers;</p> <p>hazards and safety aspects involved in assembling activities and usage of relevant PPEs.</p>	<p>The individual on the job demonstrate cognitive and practical skills to carry out wide range of tasks like:</p> <p>break the problem into smaller issues and tasks to arrive at a solution;</p> <p>plan, organize and prioritize the work order and jobs received from the production manager;</p> <p>organize information, tools, manuals etc. on the shop floor so that sorting becomes easy;</p> <p>Coordinate with various functions like material management, stores, paint shop, assembly line, safety, production planning to ensure communication of required information and resolution of queries.</p>	<p>The individual must be able to:</p> <p>read equipment manuals and process documents given by the equipment supplier to understand the equipment and processes better;</p> <p>create small notes/ work documents/ diagrams for supervisors ,operators and helpers to help them understand the process;</p> <p>discuss task lists, schedules, and work-loads with the operative team members.</p>	<p>The individual on the job is responsible for own work as well as fully responsible for other's work. His job includes:</p> <p>supervising the assembly line fitters for assembly of various electrical and mechanical components used in the automotive industry/ assembly of vehicles in the production line &amp;programming,</p> <p>setting of equipment's and machines ensuring effective and correct usage of machines.</p>	6
<b>Level 6</b>	<b>Level 6</b>	<b>Level 6</b>	<b>Level 6</b>	<b>Level 6</b>	<b>Level 6</b>

Please attach any documents giving further information about any of the topics above.  
Give details of the document(s) here:

#### **SECTION 4**

#### **EVIDENCE OF RECOGNITION OR 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?**

**Occupational and career maps indicating horizontal and vertical mobility have been created and are being used.**

Please attach any documents giving further information about any of the topics above.  
Give details of the document(s) here:

List of Annexure(s)

Annexure A = Cut-offs

Annexure B= Accredited Assessment Agencies Guidelines