**CONTACT DETAILS OF AWARDING BODY FOR THE QUALIFICATION FILE**

**Name and address of awarding body:**

Indo Danish Tool Room,

M4,Part 6,Tata Kandra Road, Gamharia

Jamshedpur-0657, 2201261/62

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

**Name:**

MR Anand Dayal

General Manager

Indo Danish Tool Room,

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**SUMMARY**

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| **Qualification Title** | **Advance Certificate Course In Machine Maintenance** |
| **Nature and purpose of the qualification** | **Nature:** Advance Certificate Course  **Purpose:** Learners who attain this qualification are competent in Machine Maintenance and can get a job as Maintenance Technician.   * Qualifying learners attain skills to work in Maintenance department to carry out different types of Maintenance work for various machines & equipments used in Industry. |
| **Body/bodies which will award the qualification** | **Indo Danish Tool Room ,Jamshedpur** |
| **Body which will accredit providers to offer courses leading to the qualification** | **Indo Danish Tool Room ,Jamshedpur** |
| **Body/bodies which will carry out assessment of learners** | **Indo Danish Tool Room ,Jamshedpur** |
| **Occupation(s) to which the qualification gives access** | **Maintenance Technician** |
| **Level of the qualification in the NSQF** | **Level 5** |
| **Anticipated volume of training/learning required to complete the qualification** | **1560 Hours** |
| **Entry requirements and / or recommendations** | **ITI in Fitter/ Electrician** |
| **Progression from the qualification** | **Job Progression:**  **After completion of course and after 3 years of field experience the trainee can work as a Senior Maintenance Technician and after that 5 years of experience, the person can work as a Maintenance Supervisor .** |
| **Planned arrangements for the Recognition of Prior learning (RPL)** | **Yes** |
| **Date of planned review of the qualification.** | **January 2018** |

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| **Formal structure of the qualification** | | | | |
| **SR.NO** | **Title and identification code of component.** | **Mandatory / Optional** | **Estimated size**  **(learning hours)** | **Level** |
| 1 | Use Safety Practice In Industry | M | 65 | 5 |
| 2 | Fitting & Bench work | M | 140 | 5 |
| 3 | Maintenance Work | M | 255 | 5 |
| 4 | Operations & Maintenance of conventional machines | M | 211 | 5 |
| 5 | Maintenance of utility | M | 225 | 5 |
| 6 | Maintenance Of electrical equipments | M | 234 | 5 |
| 7 | Basic operation & Maintenance of CNC Machines | M | 130 | 5 |
| 8 | Machine Installation | M | 110 | 5 |
| 9 | PLC Programming | M | 120 | 5 |
| 10 | Work effectively at workplace | M | 70 | 5 |

**Body/Bodies which will carry out assessment:** **Indo Danish Tool Room ,Jamshedpur**

**How will RPL assessment be managed and who will carry it out?**

YES. Learners who have met the requirements of any Unit Standard that forms part of this

qualification may apply for recognition of prior learning to the relevant Education body. The applicant must be assessed against the specific outcomes and with the assessment criteria for the relevant Unit Standards.

**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.**

**1. ASSESSMENT GUIDELINE:**

- Criteria for assessment based on each learning outcomes, will be assigned marks proportional to its importance.

- The assessment for the theory & practical part is based on knowledge bank of questions created by trainers and approved by Indo Danish Tool Room ,Jamshedpur

- For each Individual batch, Examination cell will create unique question papers for theory part as well as practical for each candidate at each examination.

- To pass the Qualification, every trainee should score a minimum of 40% in Theory and 60% in Practical subject.

- Assessment comprises the following components:

>Job carried out in labs/workshop

>Record book/ daily diary

>Answer sheet of assessment

>Viva –voce

>Progress chart

>Attendance and punctuality

**2. ASSESSORS:**

IDTR Jamshedpur faculty teaching the Advance Certificate Course In Machine Maintenance, also assesses the students as per guidelines set by Examination cell of IDTR Jamshedpur. Faculties are been trained from time to time to upgrade their skills on various aspects such as conduction of assessments, teaching methodology etc.

**3. ELIGIBILITY TO APPEAR IN THE EXAM:**

Minimum 90% attendance is compulsory for the students to appear for the assessments.

**4. MARKING SCHEME:**

Please refer Annexure - I(Curriculum) for marking

**PASSING MARKS:**

Passing criteria is based on marks obtain in attendance record, term works , assignments, practical’s performance, viva or oral exam, module test, class test, practical exam and final exam

Minimum Marks to pass practical exam – 60%

Minimum Marks to pass theory exam – 40%

**6. RESULTS AND CERTIFICATION:**

The assessment results are backed by evidences collected by assessors. Successful trainees are awarded the certificates by Indo Danish Tool Room ,Jamshedpur

**ASSESSMENT EVIDENCE**

ASSESSMENT EVIDENCE

Assessment evidence comprises the following components document in the form of records:

* Job carried out in labs/workshop
* Record book/ daily diary
* Answer sheet of assessment
* Viva –voce
* Progress chart
* Attendance and punctuality

**Title of component: Advance Certificate Course In Machine Maintenance**

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| **Assessable outcomes:** | **Assessment criteria for the outcome** |

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| **LO** | **Assessment Outcome Description** | **Theory** | **Practical** | **Total** |
| Identify hazards | Recognize and report all unsafe situations according to policy. | 65 | 00 | 65 |
| Maintain PPE | Identify Personal Productive Equipment (PPE) and use the same as per related working environment. |
| Take necessary steps to prevent accident | Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures. |
| Able to maintain maintenance work sheet | Write Maintenance record details as per the maintenance activities done | 00 | 255 | 255 |
| Analyze machine data history card | Perform Analysis by fish bond diagram, why why analysis |
| Take necessary action to start maintenance | Observation of the machine condition of the machine |
| Handling different types of tools like marking, measuring & cutting tools | Identify tools and equipment for marking and demonstration of these tools & equipment. | 00 | 140 | 140 |
| Assembling & disassembling | After assembling & disassembling measure allowance widen tolerance |
| Performing marking, measuring & cutting operation | * Accrue correct measurement and marking and getting accuracy after cutting operation * Identify tools and equipment for marking and use of these tools & equipment. * Mark according to drawing. |
| Carry out the preventive& periodical maintenance activities for different machine | * Describe safety aspects while working preventive & periodical maintenance activities   Select proper tools for the required task.   * Carry out the maintenance work flow instructional manual or guideline | 00 | 255 | 255 |
| Minors adjustment and repairing of the machine | Ensuring during preventive maintenance thoroughly check the parts are function or not  Carry out Minors adjustment by using proper tool | 00 | 255 | 255 |
| Carry out Day to day checked activities | Preparation of list to be check   * Create the report after checked activities |
| Fault finding & troubleshooting of breakdown machines | Follow proper process for fault finding   * Follow manual instruction &maintain interchange parts having same specifications |
| Carry out repair & breakdown maintenance for conventional lathe, milling, grinding, drilling and other machines | * Analyze previous maintenance records * Create List of common problems & its remedy |
| Execute Preventive & Break down maintenance of Air compressor | * Describing working principle of air compressor * Plan preparation for maintenance * Carry out maintenance activity by using proper tools * Check all safety aspect issues after performing maintenance activities |
| Execute Preventive & Break down maintenance of Pump | * Describing working principle of pump * Plan preparation for maintenance * Dismantling procedure * Carry out maintenance activity by using proper tools * After performing maintenance activities check all safety aspect issues * Check efficiency level of suction & delivery |
| Execute Preventive & Break down maintenance of DG set | * Describing working principle of DG set * Plan preparation for maintenance * Dismantling procedure * Carry out maintenance activity by using proper tools * After performing maintenance activities check all safety aspect issues * Measure the volt/amp, noise level |
| Performing basic electrical connections & fittings in different electrical equipments | * By electrical connection procedure * Consider points during fitting electrical equipment |
| Measuring electrical parameters | Measure parameters Amp, Voltage, resistance, continuity , temperature ,Rpm using by multimeter ,megar, tester, tachometer , tong tester, Amp meter etc. as per the machine requirement. | 00 | 234 | 234 |
| Fault finding & trouble shooting in control panels | * Follow manual instruction * Follow proper procedure * Check and ensure all safety related aspect |  |  |  |
| Describe functions of electrical equipments like timer, contactor, relay, limit switch | * Working principle of the equipments * Limitation of loads |
| Examine parameters as per check list of machine manual | * Follow manual instruction * Prepare Check list |
| Carry out preventive maintenance of CNC machines | * Follow manual instruction * Prepare check list | 00 | 130 | 130 |
| Adjustment on machines & replacing parts as applicable | * Maintain Specification of replacing parts * Properly adjustment as per require for free movement |
| Receiving materials as per order list | * Thoroughly checked receiving items as per the order copy specification & quantity |
| Performing alignment & leveling | * Preparation the tool and equipment’s list * Properly use tool and equipment * Checked leveling and alignment points |
| Complete machine installation task | Observation & checking of important points before commissioning & starting the machines | 35 | 85 | 120 |
| Programming & Editing PLC | * Able to simulate programme properly * Able to perform programming related wiring |
| Fault finding in PLC | * Able to configure PLC hardware part & software * Able to check input & output signals |
| Interchanging PLC | * Able to communicate PLC with different devices * Describe about error status |

**EVIDENCE OF RECOGNITION AND PROGRESSION**

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| **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?**  Relevant information was collected from Industries and allied sector working in this area.  The Automotive Components industries are recruiting people based on the qualification acquired. Maximum  of the industries accept this as qualification for selection/short listing of the individual.  approved by members.  **Vertical Pathway:**  The Occupational Map has been created & attached.  The **MACHINE OPERATION** has a clear pathway  **Horizontal Pathway:**  The individual can migrate within the Automotive Components related industries. |