

Assessment Evidence Guide For

“Dies and Moulds Technology”

Level-4

(Summative Assessment)

01-05 March 2021



**National Vocational & Technical
Training Commission**

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|---|--|----------|-------------|
| Title of Qualification: Level 4 National Qualification Certificate, in Associate Engineer in Dies and Mould Technology | CS Code: | Level: 4 | Version: 01 |
| Competency Standard Title: A-Establish and maintain the occupational Health and safety system B-Perform Advance communication C- Perform CNC Milling/Machining Centre Operations D-Perform Electric Discharge Machining (EDM) Sinker Operations E-Perform (EDM) Wire Cut Operations | Assessment Date (DD/MM/YY): Assessment Time: 5 Hrs. | | |

| | |
|------------------------|--|
| Candidate Details | Name: Registration/Roll Number:..... |
| Guidance for Candidate | <p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task 1: Candidate is required to make a product according to any drawing assigned by assessor (ANNEX-1 or ANNEX-2), by CNC Milling/Machining Centre Operations</p> <p style="text-align: center;">OR</p> <p>Assessment Task 2: Candidate is required to make a product according to any drawing assigned by assessor (ANNEX-3 or ANNEX-4), by (EDM) Wire Cut Operations</p> <p style="text-align: center;">Note: Candidate must Display/Present Final Project</p> <p>And complete:</p> <ol style="list-style-type: none"> 1. Knowledge assessment test (Written or Oral) 2. Portfolios at the time of assessment (if any) |

| | |
|---------------------------|---|
| Minimum Evidence Required | <p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Make 3D models according to the requirement of given job.</p> <p>Performance Criteria 2: Import 3D CAD model into CAM software</p> <p>Performance Criteria 3: Set reference point and apply material/stock for machining to the model as per job requirements</p> <p>Performance Criteria 4: Use appropriate part programming credentials (Coordinates, Feed, Speed, Tooling Information etc.) according to the CNC machine control unit</p> <p>Performance Criteria 5: Apply machining feature(s), toolpath strategies and leads/links as per prescribed procedure</p> <p>Performance Criteria 6: Check the simulation according to the applied tool path strategy to verify movements of tool/cutter to get same results as per defined sequence</p> <p>Performance Criteria 7: Generate part program file against the applied machining sequence according to the post processor of CNC machine</p> <p>Performance Criteria 8: Mount the work-piece as per SOPs</p> <p>Performance Criteria 9: Mount the cutter in spindle/ATC as per job requirement</p> <p>Performance Criteria 10: Perform off-set setting of the workpiece and tools (compensations)</p> <p>Performance Criteria 11: Feed program file into machine control unit for further execution as per procedure</p> <p>Performance Criteria 12: Carry out CNC Milling Operations</p> <p>Performance Criteria 13: Perform deburring of the job using appropriate tool</p> <p>Performance Criteria 14: Inspect the job using appropriate measuring tool</p> |
| | <p>Portfolios required at the time of assessment (if any) for</p> <p>Performance Criteria 1: Perform EDM machining process as per standard procedure on assigned jobs</p> <p>Performance Criteria 2: Execute Jig grinding operation according to SOPs as per requirement on assigned jobs</p> <p>Performance Criteria 3: Perform Cylindrical grinding as per standard procedure on assigned jobs</p> <p>Performance Criteria 4: Perform heat treatment process as per standard procedure on assigned jobs</p> |

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Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

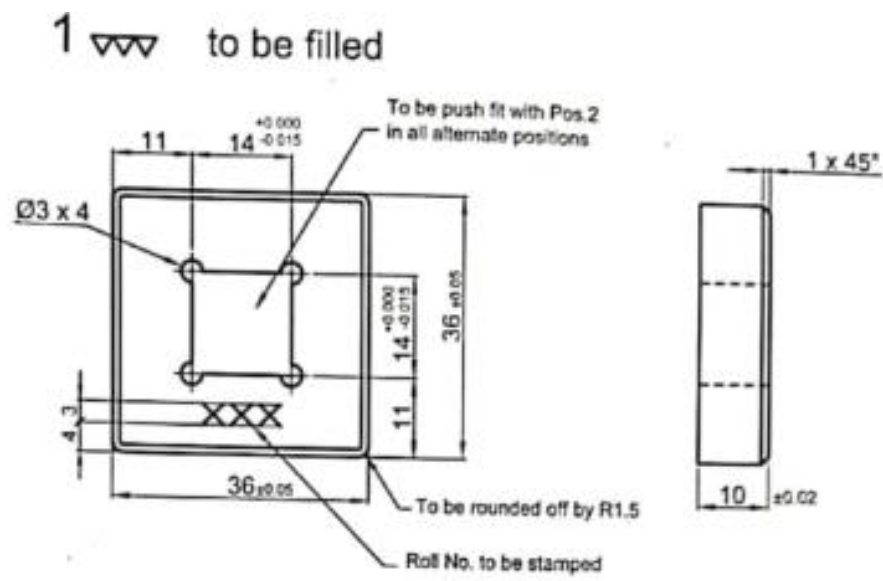
| | |
|--------------------|---|
| Candidate Details | Name: Registration/Roll Number: Candidate Signature: |
| Assessment Outcome | COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor: |

| Assessment Summary (to be filled by the assessor) | | | | | | | |
|---|---------|------|-------------|-----------|-----------|-----------|-------------------|
| Activity | Method | | | | | Result | |
| Nature of Activity | Written | Oral | Observation | Portfolio | Role Play | Competent | Not Yet Competent |
| Practical Skill Demonstration | | | ✓ | | | | |
| Knowledge Assessment | ✓ | ✓ | | | | | |
| Other Requirement | | | | | | | |

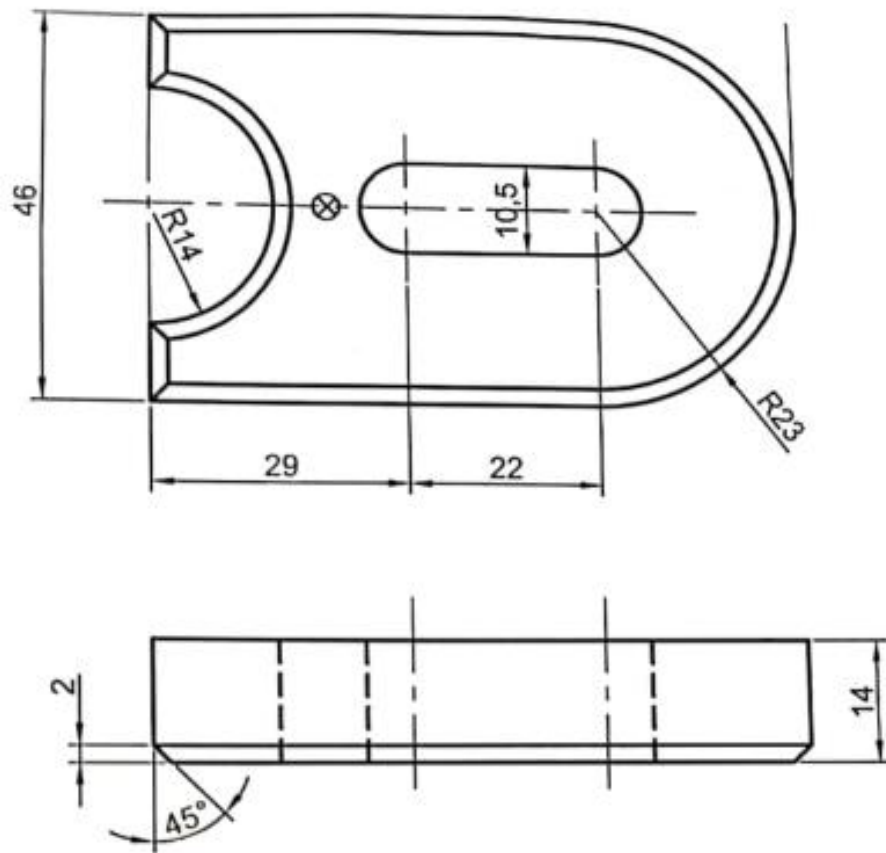
| Each Assessment Task (with performance criteria) | | | | |
|--|---|---|----|---------|
| Assessment Task 1 | | Description of assessment task 1 | | |
| | | Candidate is required to report and record lost and found property according to the organizational SOPs | | |
| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
| 1. | Make 3D models according to the requirement of given job. | | | |
| 2. | Import 3D CAD model into CAM software | | | |
| 3. | Set reference point and apply material/stock for machining to the model as per job requirements | | | |
| 4. | Use appropriate part programming credentials (Coordinates, Feed, Speed, Tooling Information etc.) according to the CNC machine control unit | | | |
| 5. | Apply machining feature(s), toolpath strategies and leads/links as per prescribed procedure | | | |
| 6. | Check the simulation according to the applied tool path strategy to verify movements of tool/cutter to get same results as per defined sequence | | | |
| 7. | Generate part program file against the applied machining sequence according to the post processor of CNC machine | | | |
| 8. | Mount the work-piece as per SOPs | | | |
| 9. | Mount the cutter in spindle/ATC as per job requirement | | | |
| 10. | Perform off-set setting of the workpiece and tools (compensations) | | | |
| 11. | Feed program file into machine control unit for further execution as per procedure | | | |
| 12. | Carry out CNC Milling Operations | | | |
| 13. | Perform deburring of the job using appropriate tool | | | |
| 14. | Inspect the job using appropriate measuring tool | | | |
| Competent <input type="checkbox"/> | | Not Yet Competent <input type="checkbox"/> | | |

| | | | | |
|--|--|--|----|---------|
| Assessment Task 2 | | Description of assessment task 2 Candidate is required to dispose off lost/find item assigned by assessor. | | |
| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
| 1. | Perform EDM machining process as per standard procedure on assigned jobs | | | |
| 2. | Execute Jig grinding operation according to SOPs as per requirement on assigned jobs | | | |
| 3. | Cylindrical grinding as per standard procedure on assigned jobs | | | |
| 4. | Perform heat treatment process as per standard procedure on assigned jobs | | | |
| Competent <input type="checkbox"/> | | Not Yet Competent <input type="checkbox"/> | | |

ANNEX-1



ANNEX-2

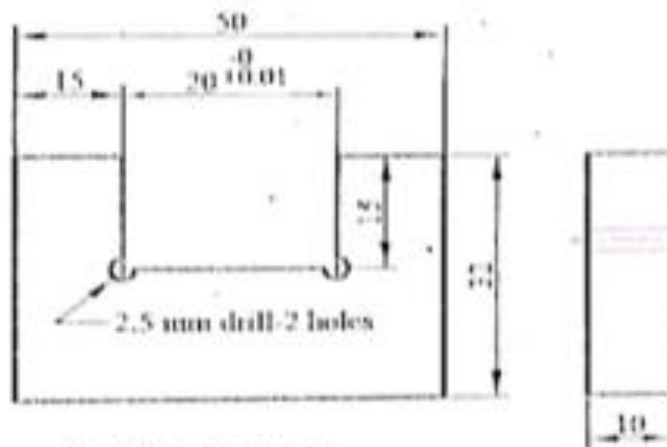


ANNEX-3

Pos-1

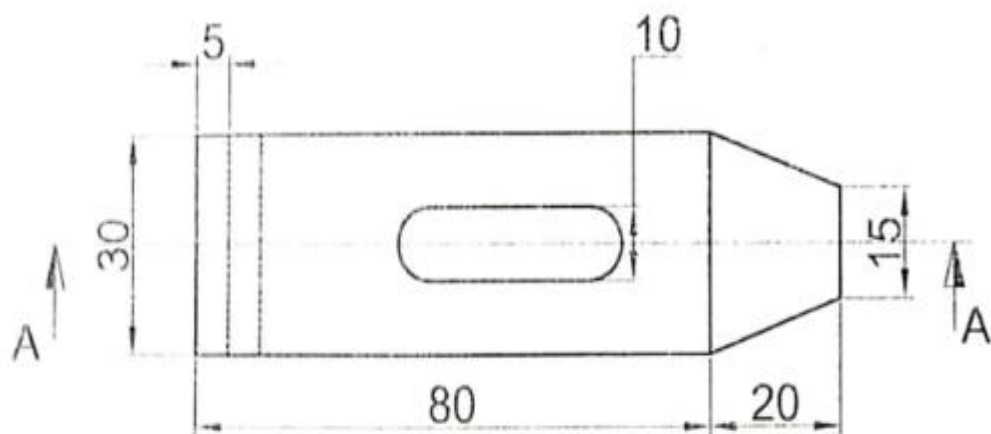
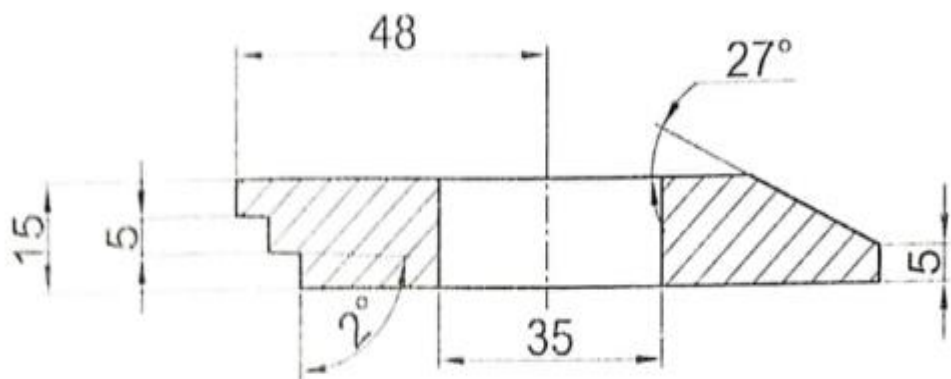


Pos-2



Push fit with Pos.1

ANNEX-4



Mat: Mild Steel

ANNEX-5

