

Written Assessment Guide
For
“Dies & Moulds
Technology”
Level -4

1st -5th March 2021



National Vocational & Technical
Training Commission

Title of Qualification: National Vocational Certificate Level 4, (Dies and Mould Technology) "CAD/CAM Supervisor"	CS Code:	Level:4	Version:
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: 60 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors 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:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: National Vocational Certificate Level 4, (Dies and Mould Technology) "CAD/CAM Supervisor"	CS Code:	Level: 4	Version:
Competency Standard Title: Establish and maintain the occupational Health and safety system Perform Advance communication Perform CNC Milling/Machining Centre Operations Perform Electric Discharge Machining (EDM) Sinker Operations Perform (EDM) Wire Cut Operations	Assessment Date (DD/MM/YY): Assessment Time: 60min		

WRITTEN ASSESSMENT

Question	Candidate's answer
1. What is soaking time?	A. The soaking time is the duration for which a workpiece is held at heat treatment temperature.
2. What is the purpose of soaking time?	A. The purpose of soaking time is homogeneous heating of the workpiece.
3. Why heat treatment process is performed?	A. Heat treatment process is mostly performed to change physical and mechanical properties of a material by changing its microstructure or grain size. It is also used to remove internal stresses of a workpiece.
4. These codes are used for? <ul style="list-style-type: none"> • M03 • M99 • M30 • M05 	A. <ul style="list-style-type: none"> • M03: spindle start • M99: end of sub program • M30: end of program • M05: spindle stop
5. Enlist any four types of CNC machine?	B. <ol style="list-style-type: none"> 1. CNC Milling machine 2. CNC Machining Center 3. CNC Lathe 4. CNC Turning Center 5. CNC EDMs 6. CNC Laser Cutting

Question	Candidate's answer
6. State the major type of cutting tools for CNC?	A. <ul style="list-style-type: none"> • End Mill cutters flat tip • End Mill ball nose • End Mill radius tips • Face mill cutters • Drills • Taps
7. What is programming?	A. Programming is a task picking numerical values from drawing and coding them according to certain rules for instructing machine to operate.
8. State the different types of tool & cutter grinder?	A. Radius grinder, D-Bit grinder, CNC tool & cutter grinder
9. What is the main function of a JIG grinder?	A. A jig grinder is a machine tool used for grinding complex shapes and holes where the highest degrees of accuracy and finish are required.
10. What is the most important factor on a JIG grinder?	A. The most important factor on a jig grinder is the dual-spindle configuration.
11. State the type of molding?	A. <ul style="list-style-type: none"> • Extrusion molding • Compression molding • Blow molding • Injection molding • Rotational molding
12. What is the best material to make a mold?	A. <ul style="list-style-type: none"> • Polyurethane • Polyester resins • Silicone rubbers

Question	Candidate's answer
13. Enlist the name of any five press tools?	<p>A.</p> <ul style="list-style-type: none"> • Blanking tool. • Piercing tool. • Cut off tool. • Parting off tool. • Trimming tool. • Shaving tool. • Forming tool. • Drawing tool.
14. What is draft in molding?	<p>A. Draft is the amount of taper for molded or cast parts perpendicular to the parting line. By tapering the sides of the mold by an appropriate "draft angle", for instance 2° (two degrees), the mold will be easier to remove.</p>
15. What is ejection in mold?	<p>A. Ejection is a process of removing the plastic material from the mold. This are of different types to remove the material from mold.</p>
16. Enlist any five defects in molding?	<p>A.</p> <ol style="list-style-type: none"> 1. Flow lines 2. Burn marks 3. Warping 4. Air pockets/vacuum voids 5. Sink marks 6. Weld lines 7. Jetting 8. Discoloration 9. Delamination 10. Short shot 11. Flash
17. Where we use align to geometry work plane?	<p>A. We use align to geometry work plane on angle surfaces and make work on done on that angle which on surface</p>
18. What is the Boolean Command and explain its purpose?	<p>A. Boolean command is situated in solid feature it is used for two solid shapes can Add, Subtract, and intersect</p>

Question	Candidate's answer
19. What is the difference between Surfaces and Solid?	A. Surfaces model has a thin layer and Solid model has thicker and complete solid inside
20. EDM stands for?	A. Electric Discharge Machine.
21. How many axis are used in EDM?	A. 3 Axis (X, Y & Z)
22. Which coolant is used in EDM?	A. Kerosene Oil
23. What meant by ATC in EDM?	A. ATC is stand for "Automatic Tool Changer".
24. What is EDM technology?	A. This gives the wire-cut EDM the ability to be programmed to cut very intricate and delicate shapes.
25. Which metal is not cut by wire EDM?	A. Wire EDM works on parts resistant to conventional machining processes, but only if these parts are electrically conductive; usually, they are non-ferrous, and include steel, titanium, super alloys, brass, and many other metals.