

071606T4IMT

INDUSTRIAL MECHATRONICS TECHNOLOGY LEVEL 6

ENG/OS/IMT/CR/13/6/A

Operate Fabrication Machinery

Nov/Dec 2024



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICAL ASSESSMENT

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INSTRUCTIONS TO CANDIDATE:

1. Figure 1 is a design drawing. You are required to study it and perform the following machining operations tasks:

Task 1. Observe the standard safety rules and regulations when in the workshop and operating the machines.

Task 2. Turn the workpiece to reduce the diameter to Ø40 mm along a length of 90 mm. Leave a 30 mm section at the original Ø50 mm diameter.

Task 3. Apply a chamfer of 2.0 x 45° on the turned end to prepare for threading.

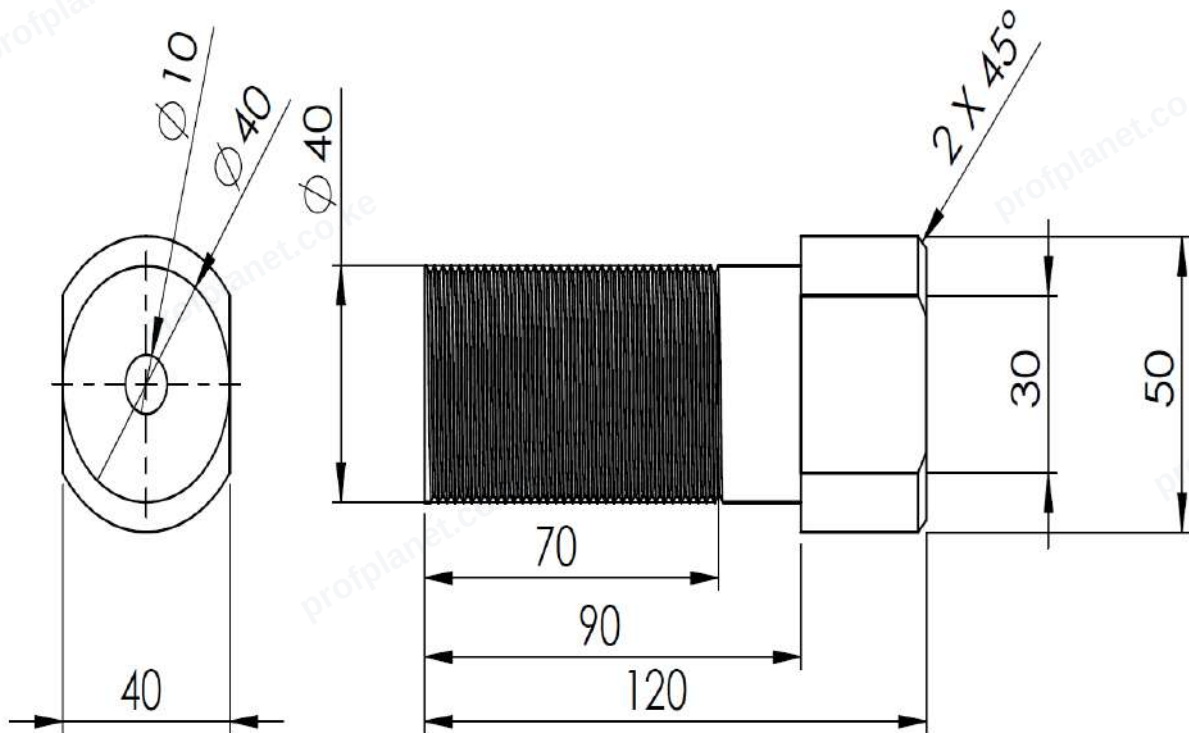
Task 4. Mill two parallel flat surfaces on the 30 mm section, reducing the diameter from Ø50 mm to Ø40 mm across the flats.

Task 5. Drill through the entire length of the workpiece with a Ø10 mm drill bit, ensuring concentricity with the workpiece axis.

Task 6. Cut M30 x 2.5 mm external threads on the turned side to a length of 70mm.

Task 7. Inspect the final product and document the machining processes.

Design drawing



2. You are provided with the follo
 - i. Lathe machine and acces
 - ii. Facing tool
 - iii. Floor standing or bench drilling machine
 - iv. Drill bit diameter 10mm
 - v. Turning tool
 - vi. Mild steel rod
 - vii. Milling machine and accessories
 - viii. End mill cutter
 - ix. External threading tool
 - x. Steel rule
 - xi. Vernier caliper
 - xii. Scriber
 - xiii. Protractor
 - xiv. Chamfering tool