071506T4MTM

MECHANICAL TECHNOLOGY AND MAINTENANCE TECHNICIAN LEVEL6

ENG/OS/MEM/CR/02/6

Perform Manual Metal Arc Welding (MMAW)

July/August 2025

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

PRACTICAL ASSESSMENT

INSTRUCTIONS TO CANDIDATE:

1. The duration of the practical will be guided by your assessor.
2. You are required to perform the following tasks

    i. Produce components 1,2 and 3 as per the working drawing

    ii. Inspect the finished work and record in the form "**Candidate's Inspection Checklist for the Finished Work" provided in Appendices 1-3**.

3. You have been provided with the following resources for the practical tasks:

- Mild steel plates

  92 × 52 × 8 (5 off)
  125 × 125 × 3 (1 off)
  102 × 152 × 6 (1 off)

- Mild steel pipe Ø 50

  Length 62 (1 off)

- Mild Steel flat bars

50 × 102 × 3 (3 offs)

- Mild steel pipes:

  Ø 50 x 62 (1 off)
  Ø 50 x 42 (1 off)

- Mild steel welding electrode E6013 Ø3.2.
- Manual metal arc welding machine.
- Hand grinding machine.
- Cutting discs.
- Welding shield.
- Tongs.
- G-clamp.
- Chipping hammer.
- Ball pein hammer.
- Wire brush.
- Flat files.
- Engineer`s square.
- Scriber.
- Steel rule.
- Welding table.
- Hand Hacksaw/Power hacksaw
- Welding leather gloves.

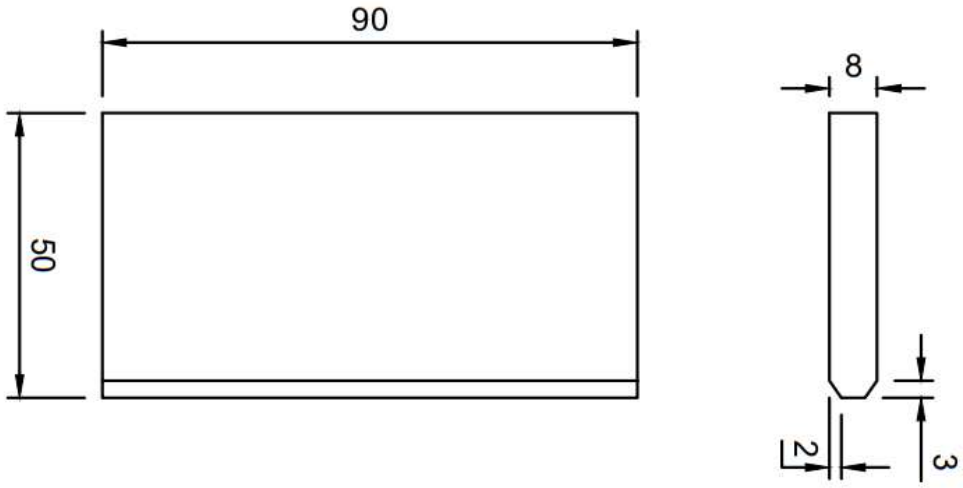
- Clear goggles.

Note:

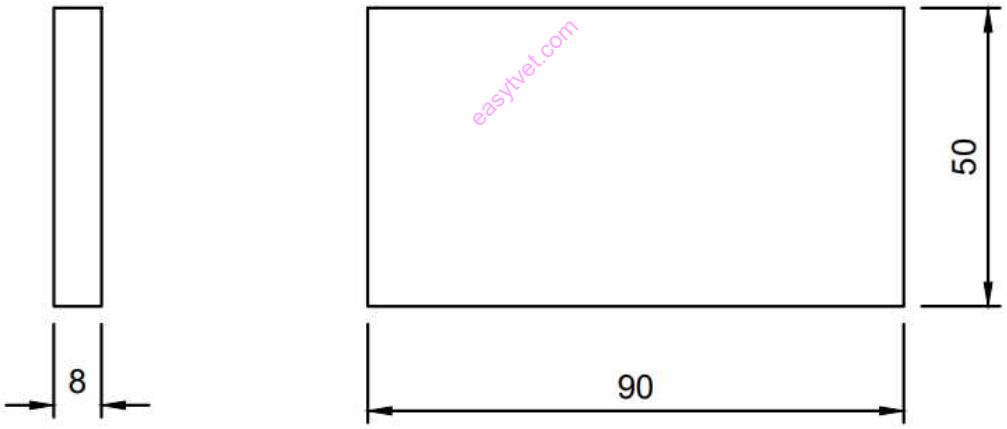
- **All dimensions are in mm**
- **Tolerance;**
- **± 0.5 on material preparation**
- **± 1 on the finished product**

WORKING DRAWINGS

1. Component 1

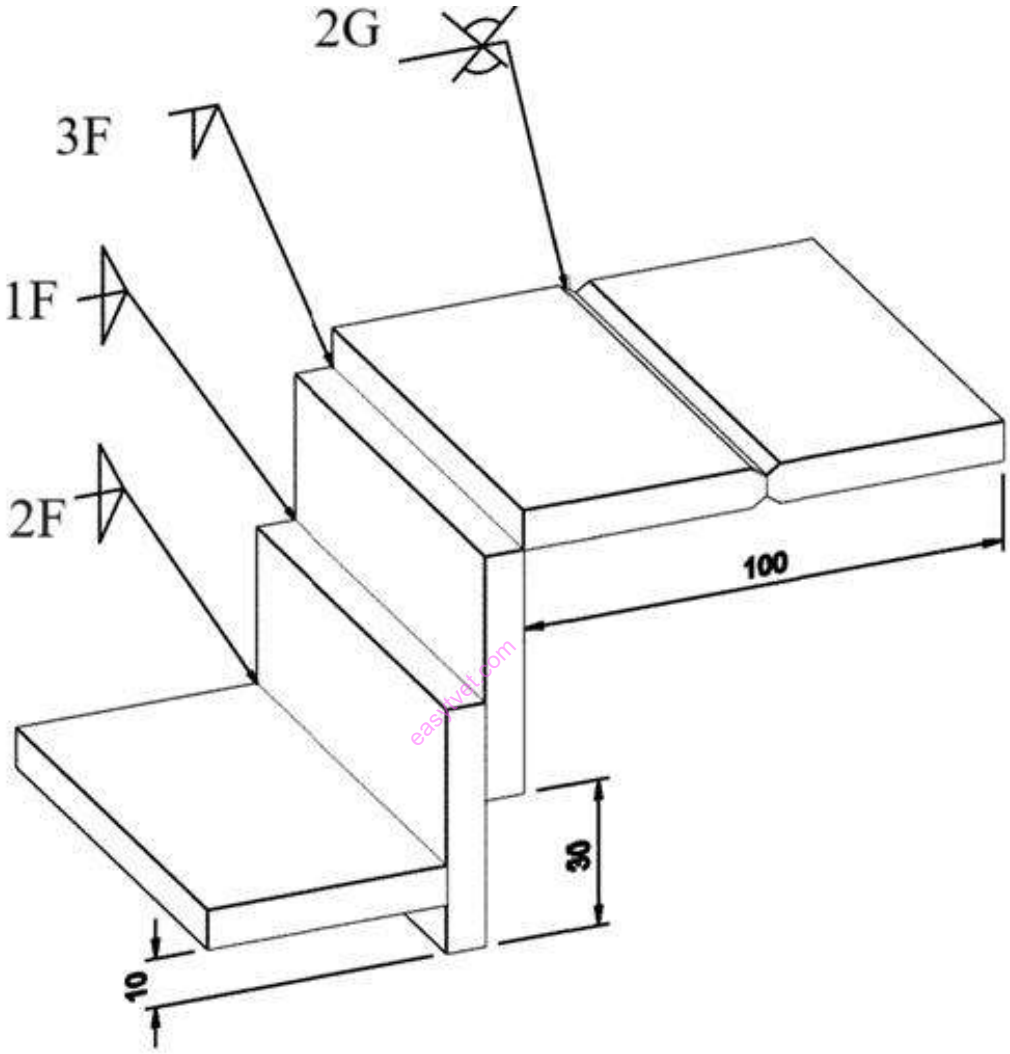


PART 1; 2 (OFF)

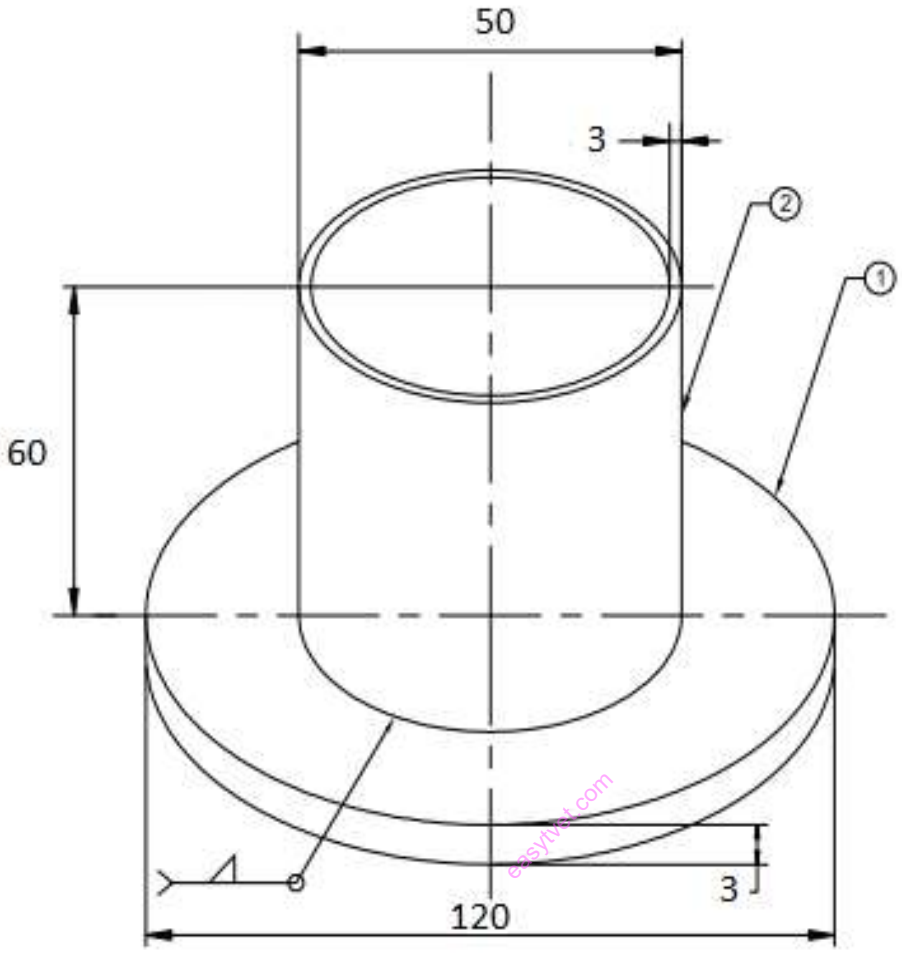


PART 2; 3 (OFF)

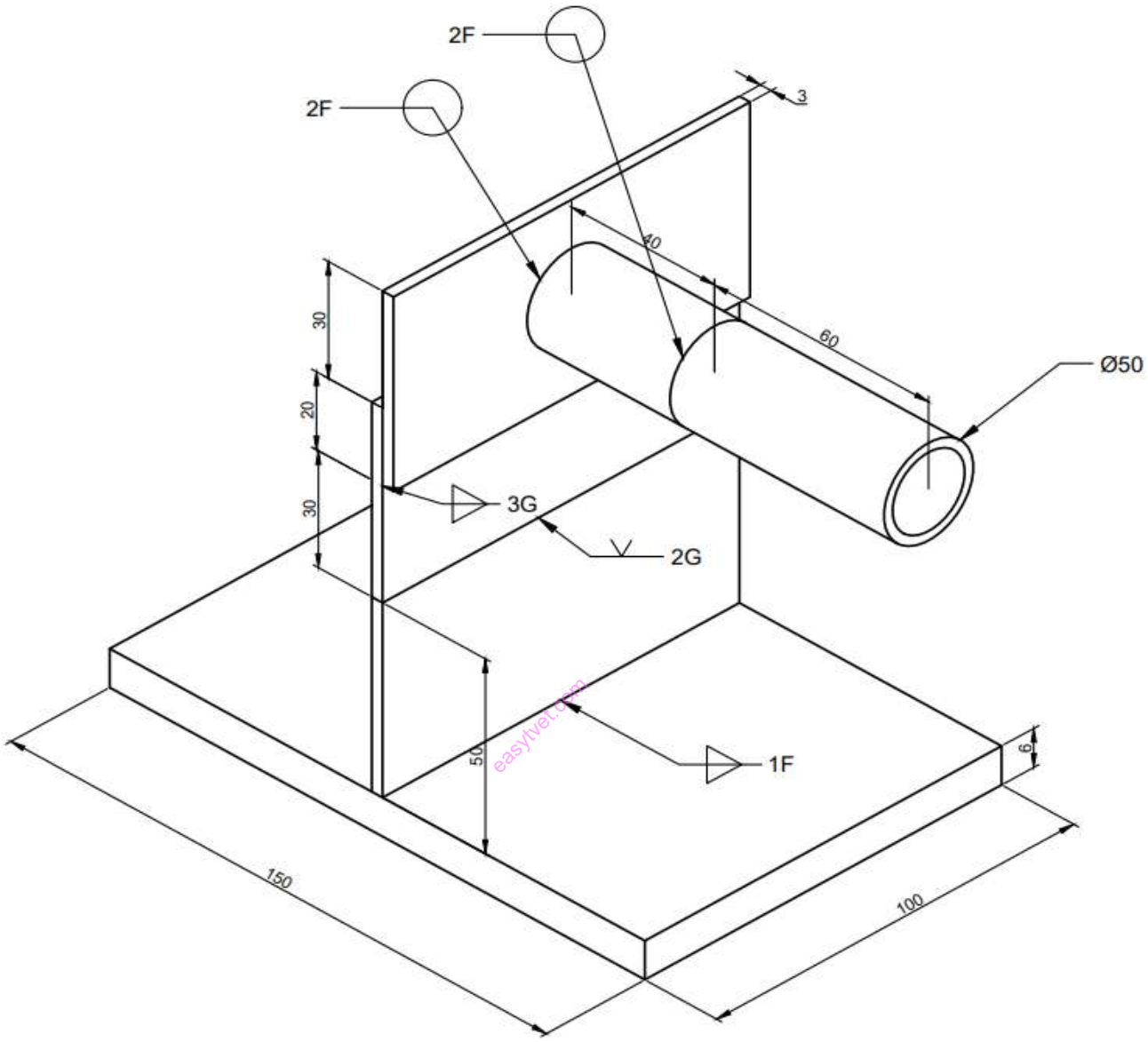
ASSEMBLY



2. COMPONENT 2



3. COMPONENT 3



NOTE:

- **Pipe is centrally placed on plate**

Appendix 1:

Component 1: Candidate's Inspection Checklist for the Final assembly

S/No	Main dimensions	Measured dimension	Deviations	Comments
Linear (±1)				
1.	100 (2)			
2.	30 (2)			
3.	10 (2)			

Appendix 2:

Component 2: Candidate's Inspection Checklist for the Finished Work

S/No	Main dimensions	Measured dimension	Deviations	Comments
Linear (±1)				
1.	60(2)			
2.	120(2)			
Angular inspection using try square.				
3.	90^0 (2)			

Appendix 3:

Component 3: Candidate's Inspection Checklist for the Finished Work

S/No	Main dimensions	Measured dimension	Deviations	Comments
Linear (±1)				
1.	150(2)			
2.	100(8)			
3.	40(2)			
4.	60(2)			
5.	30(4)			
6.	20(2)			
Angular inspection using try square.				
7.	90^0 (3)			