



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

MECHANICAL TECHNOLOGY (WELDING AND METALWORK)

GUIDELINES FOR PRACTICAL ASSESSMENT TASKS

GRADE 12

2026

These guidelines consist of 24 pages.

TABLE OF CONTENT

	Page
1. INTRODUCTION	3
2. TEACHER GUIDELINES	4
2.1 Administration of the PAT	4
2.2 Assessment of the PAT	4
2.3 Moderation of the PAT	5
2.4 Consequences of absence/non-submission of tasks	5
2.5 Declaration of Authenticity	6
3. CANDIDATE GUIDELINES	7
Instructions to the candidate	7
4. SPECIALISATION: WELDING AND METALWORK (SPECIFIC)	8
Criteria and standards	8
Resources required for the PAT	9
Potjie braai concept designs	10
Examples of quality of welds	11
Rubric	12
FIGURE 1: The complete exploded view of the potjie braai	13
Phase 1 – Pot support	14
Phase 2 – Grid frame and fastener	16
Phase 3 – Legs, main support tube and flat bar	18
Phase 4 – Ash pan and final assembly	20
Composite mark sheet (potjie braai)	23
5. CONCLUSION	24

1. INTRODUCTION

The 18 Curriculum and Assessment Policy Statements subjects which contain a practical component all include a practical assessment task (PAT). These subjects are:

- **AGRICULTURE:** Agricultural Management Practices, Agricultural Technology
- **ARTS:** Dance Studies, Design, Dramatic Arts, Music, Visual Arts
- **SCIENCES:** Computer Applications Technology, Information Technology
- **SERVICES:** Consumer Studies, Hospitality Studies, Tourism
- **TECHNOLOGY:** Civil Technology, Electrical Technology, Mechanical Technology and Engineering Graphics and Design
- **TECHNICAL:** Technical Mathematics, Technical Sciences

A practical assessment task (PAT) is a compulsory component of the final promotion mark for all candidates offering subjects that have a practical component and counts 25% (100 marks) of the end-of-the-year examination mark. The PAT is implemented across the first three terms of the school year. This is broken down into different phases or a series of smaller activities that make up the PAT. The PAT allows for learners to be assessed on a regular basis during the school year and it also allows for the assessment of skills that cannot be assessed in a written format, e.g. test or examination. It is therefore important that schools ensure that all learners complete the practical assessment tasks within the stipulated period to ensure that learners are resulted at the end of the school year. The planning and execution of the PAT differs from subject to subject.

The PAT allows the teacher to directly and systematically observe applied competence. The PAT comprises the application/performance of the knowledge, skills and values particular to that subject and counts 25% of the total promotion/certification mark out of 400 for the subject.

Any profession requires of its members a thorough grounding in both theory and practice, and MECHANICAL TECHNOLOGY is no exception. It is emphasised that the goal of the practical assessment task is to produce a skilled candidate in each specialisation field. A nation's true wealth is in its manpower and education that should aim to develop the talents of a candidate so that he/she can contribute to the well-being of the society by using and developing scientific and technological resources.

To prepare a candidate in the MECHANICAL TECHNOLOGY'S specialisation fields, one must focus on the following:

- An attitude where the candidate can selectively use ideas, gather evidence and facts and draw logical conclusions to put them to good use creatively and with imagination;
- A capability to express ideas and information clearly by speech, writing, drawing and manufacturing; and
- A willingness and capability to accept and exercise responsibility, to make decisions, and to learn by experience.

Attributes such as these cannot all be achieved in a classroom. A sound knowledge of engineering sciences is essential to equip the MECHANICAL TECHNOLOGY candidate with the necessary practical capabilities for the required processes. Practical training is the application of acquiring essential skills to bridge between trade theory and practice.

Practical application in the workshop must therefore be made an interesting and challenging experience to develop the candidates physically and mentally. The candidates must show their initiative, curiosity and persistence in learning. In order to stimulate and develop self-confidence, the granting of some degree of responsibility during the practical application is very important.

2. TEACHER GUIDELINES

2.1 Administration of the PAT

Teachers are requested to make copies of the different specialisation PAT documents. These documents need to be handed out to the candidates at the beginning of the year. The practical assessment task for Grade 12 is externally set, internally assessed and externally moderated.

Teachers must attach due dates for the different facets of the PAT (*refer to the CAPS document*). In this manner, candidates can easily assess their progress. It is the responsibility of the teacher to administer formal assessment.

The PAT should be completed within the first three terms. The PAT should be completed under controlled conditions. (*Refer to CAPS document.*)

Should the candidate make mistakes on a specific facet, or a specific PAT phase is not done according to instruction, the candidate can be given an extended opportunity within the allocated time frame of the phase to redo the facet or phase so that it is of satisfactory quality. EACH candidate MUST have a complete copy of the PAT document in his/her portfolio of evidence.

Teachers MUST build a prototype of the task to be able to demonstrate to the candidates what the final product should look like. There may be no deviations or changes to any design, dimensions or marks. The model must be completed strictly according to the guidelines. It will guide the candidates with visual presentation. It provides the teacher with insight into possible challenges regarding machines, equipment or material and what possible manufacturing procedures he/she needs to follow in the workshop to complete the PAT. The prototype must be presented by the teacher to the moderator when moderation of the PAT starts.

All phases are to be completed at school under teacher supervision. No PAT is supposed to leave the school premises until the external moderation has been conducted.

2.2 Assessment of the PAT

Frequent developmental feedback is needed to ensure necessary guidance and support to the candidates.

Both formal and informal assessment should be conducted to ensure that the embedded skills are developed. Informal assessments must be conducted to monitor the progress of the candidates. On completion of a phase, the candidate must use the rubric and complete the mark sheet under the heading of 'Self-assessment' to conduct his/her own informal assessment before the teacher conducts formal assessment. The candidate must sign and date the mark sheet on completion of each self-assessment.

On completion of a candidate's own informal assessment, the teacher must use the same mark sheet in the candidate's portfolio of evidence to complete the formal assessment and provide feedback comments (if needed) to the candidate.

All mark sheets in the candidate's portfolio of evidence must be signed by the teacher, departmental head and moderator (if the candidate was moderated). The formal mark must be recorded on the composite mark sheet. The composite mark sheets MUST be signed by the teacher, departmental head and the principal before external moderation commences.

On completion of each phase in each term, the marks for the completed phase need to be recorded onto the South African School Administration and Management System (SA-SAMS).

2.3 Moderation of the PAT

Internal moderation by the departmental head of the school **MUST** be conducted for each completed phase of the task. Evidence of moderation reports must be available in the teacher file and be available as proof for provincial and external moderation. The internal moderator must use the same mark sheets which are available in the candidate's portfolio of evidence whereby the candidate has conducted self-assessment, with formal assessment by the teacher.

Marks must be recorded in the space provided for internal moderation. The marks on the school administration system, captured by the school, must be verified by the moderator against the composite mark sheet. The tasks/phases, assessment criteria and the mark sheets must be presented to the moderator during moderation of the PAT.

The moderator should be able to call on a candidate to explain and demonstrate the functions, principles and skills during the moderation process.

On completion, the moderator will, if necessary, adjust the marks of the group upwards or downwards should he/she deem it necessary.

All tasks/phases must be clearly marked with the correct date, initials, surname and signature of the candidate.

All phases must be completed according to the programme of assessment in these guidelines by end of **August 2026**. Provincial moderation must be conducted in the month of September by the PED, to be ready for national external moderation in October 2026.

2.4 Consequences of absence/non-submission of tasks.

If a candidate's practical assessment task is incomplete or unavailable, with a valid reason, the candidate may be given three weeks before the commencement of the final end-of-year examination to submit the outstanding task. Should the candidate fail to fulfil the outstanding PAT requirement, such a candidate will be awarded a zero mark for that PAT component.

A candidate's results are regarded as incomplete if he/she does not present any component of the PAT task. Should the candidate fail to fulfil the outstanding PAT requirement, the marks for these components will be omitted and the final mark for Mechanical Technology will be adjusted for promotion purposes in terms of the completed tasks. If any tasks are still outstanding, the candidate runs the risk of not being resulted at the end of the year. He/She will be given another opportunity **based on the decision of the head of the assessment body**.

2.5 Declaration of Authenticity

NAME OF SCHOOL:

NAME OF CANDIDATE:

(FULL NAMES AND SURNAME)

NAME OF TEACHER:

I hereby declare that the practical assessment tasks submitted for assessment is my own, original work and has not been previously submitted for moderation.

SIGNATURE OF CANDIDATE

DATE

As far as I know, the above declaration by the candidate is true and I accept that the work offered is his or her own.

SIGNATURE OF TEACHER

DATE

SCHOOL STAMP

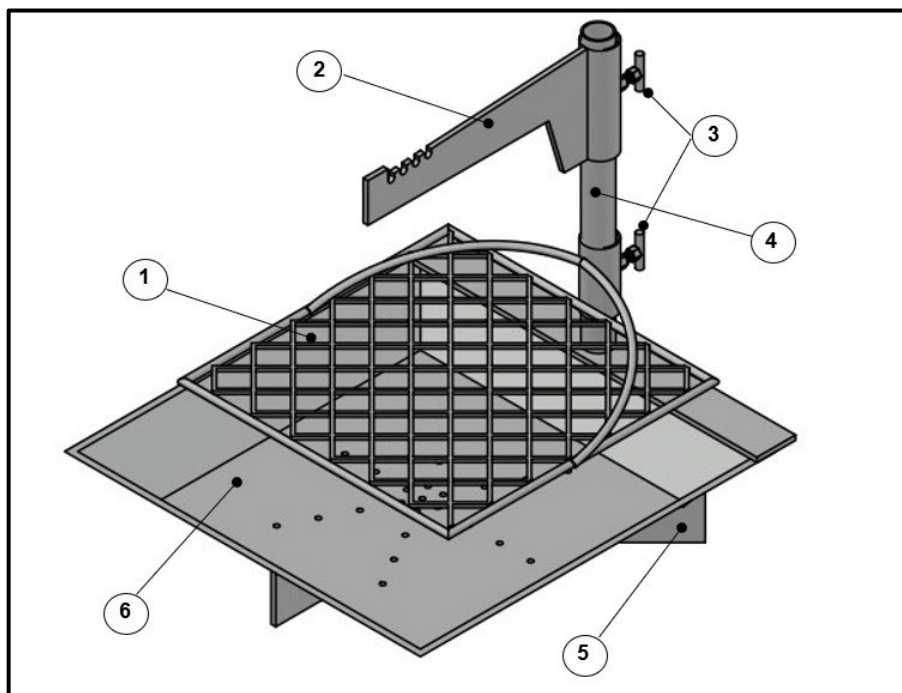
3. CANDIDATE GUIDELINES

Instructions to the candidates

- The PAT consists of a specialisation task in **Welding and Metalwork**. The practical work is spread over three terms, as set out in this document. (*See CAPS document.*)
- All phases must be completed according to the time frames set out in this document.
- Candidates are requested to actively engage in the PAT.
- Candidates who are uncooperative will receive demerits or a zero mark for that particular section of the work.
- Candidates who act unsafely in the workshop and place other candidates in danger, will be given additional corrective tasks to improve their safety awareness.
- Your PAT must be fully completed by the end of **August 2026** to be ready for provincial and/or national moderation.
- Your PAT needs to be **clearly marked** with your name and surname.
- On completion of a phase, you need to conduct self-assessment by using the provided marking rubric in this document.
- On completion of your self-assessment, you must present your completed phase and portfolio of evidence to the teacher for formal assessment and feedback.
- You **MUST** complete the **Declaration of Authenticity** to declare that the project you presented for formal assessment is your own work.
- Each term must have a completed phase in order to enter the mark on the working mark sheet and the South African School Administration and Management System (SA-SAMS).

4. SPECIALISATION: WELDING AND METALWORK (SPECIFIC)**TASK: POTJIE BRAAI****Term: 1 to 3****Starting date: January 2026****Completion date: August 2026****Criteria and standards:**

- The design of the potjie braai is shown in Examples 1, 2 and 3 given.
- Keep affordability in mind (standard dimensions of sheet metal).
- The potjie braai is according to design. Make drawings and templates.
- Overall sizes must be within ± 2 mm of the required measurement.
- Tools and equipment must not be damaged.
- All appropriate safety procedures must be adhered to.
- Welded joints must be cleaned of all slag. (Assess welds before grind finish.)
- Record marks after all dimensions have been marked out.
- Clean burrs from all edges.
- The project must be well presented.

**FIGURE 1 – POTJIE BRAAI**

1	Braai grid
2	Potjie support
3	Adjusting screws
4	Support pipe
5	Legs
6	Ash pan

RESOURCES REQUIRED FOR THE PAT:

PARTS LIST (MAIN ITEMS)				
Part No	Part	Quantity	Dimensions	Material
1	Grid frame	4	350 x Ø8	Mild steel round bar
		1	550 x Ø8	Mild steel round bar
	Grid	1	334 x 334 x 2/3 mm thick	Expanded metal
	Grid tube	1	80 x Ø38 x 2	Mild steel pipe
2	Pot support (plate A)	1	285 x 50 x 2/3	Mild steel flat bar
	Pot support (plate B)	1	68 x 50 x 2/3	Mild steel flat bar
	Tube (pot support)	1	118 x Ø38 x 2	Mild steel pipe
3	Fasteners	2	M10 x 20	Mild steel bolt
		2	M10	Mild steel nut
		2	40 x Ø8	Mild steel round bar
4	Main support tube	1	375 x Ø32 x 2	Mild steel pipe
	Flat bar	1	Calculated length x 50 x 5/6	Mild steel flat bar
5	Legs	3	160 x 60	Mild steel – 2 mm sheet metal
6	Ash pan	1	As per calculations	Mild steel – 2 mm sheet metal

POTJIE BRAAI CONCEPT DESIGNS

NOTE: These examples are illustrations for perception only to illustrate the concept of the design of the braai. The candidate must adhere to the design specifications in the figures provided.

EXAMPLES:



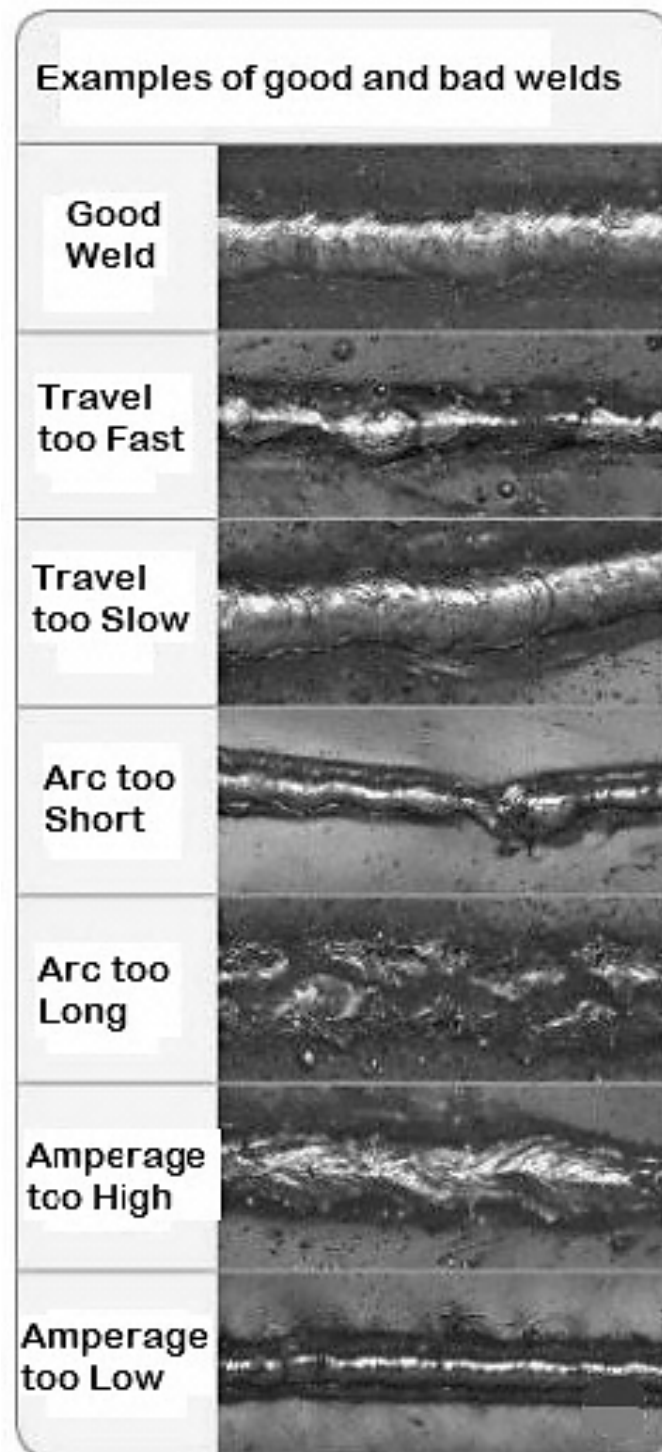
FIGURE 2: EXAMPLE 1



FIGURE 3: EXAMPLE 2



FIGURE 4: EXAMPLE 3

EXAMPLES OF QUALITY OF WELDS**FIGURE 5: EXAMPLE 4**

RUBRIC FOR MARKING, CUTTING, DRILLING, WELDING, FINISHING AND PRESENTATION

CATEGORY	Excellent (5)	Good (4)	Average (3)	Poor (2)	Incomplete (1)
MARKING OF PARTS	All parts marked accurately. ± 1 mm deviation	Nearly all parts marked accurately. ± 2–3 mm deviation	Most parts marked accurately. ± 4 mm deviation	Some parts partially marked accurately. ± 5 mm deviation	Poor and inaccurate marked parts. ± 6 mm deviation
CUTTING AND DRILLING	All parts cut/drilled accurately. ± 1 mm deviation	Nearly all parts cut/drilled accurately. ± 2–3 mm deviation	Most parts cut/drilled accurately. ± 4 mm deviation	Some parts cut/drilled accurately. ± 5 mm deviation	Poorly and inaccurately cut/drilled parts. ± 6 mm deviation
WELDING QUALITY	No welding defects. Beading neat and complete fusion of metals. All slag is removed.	Neat welding done. Good beading with some minor defects. Good fusion. All slag is removed.	Some beading visible. Welding defects visible. Incomplete fusion. Slag partially removed.	Poor welding done. Many weld defects. Poor fusion. Some burning through. No slag removed.	Bad welding. Many weld defects with no fusion and holes burned through. No slag removed.
FINISHING AND PRESENTATION	Weld areas are cleanly finished, ground and painted. Project excellently presented. Excellent functionality obtained.	Nearly all welded areas are cleanly finished, ground and painted. Project well presented. Will function well.	Most welded areas are cleanly finished, ground and painted. Average presentation. Project will function.	Some welded areas are cleanly finished, ground and painted. Poor presentation with limited functionality.	No welded areas cleanly finished, ground and painted. Incomplete assembly. Bad presentation with no functionality.

NOTE: In the event of a candidate exceeding length as per given rubric, then the candidate should be allocated 1 mark for process completed CORRECTLY.

FIGURE 1: THE COMPLETE EXPLODED VIEW OF THE POTJIE BRAAI

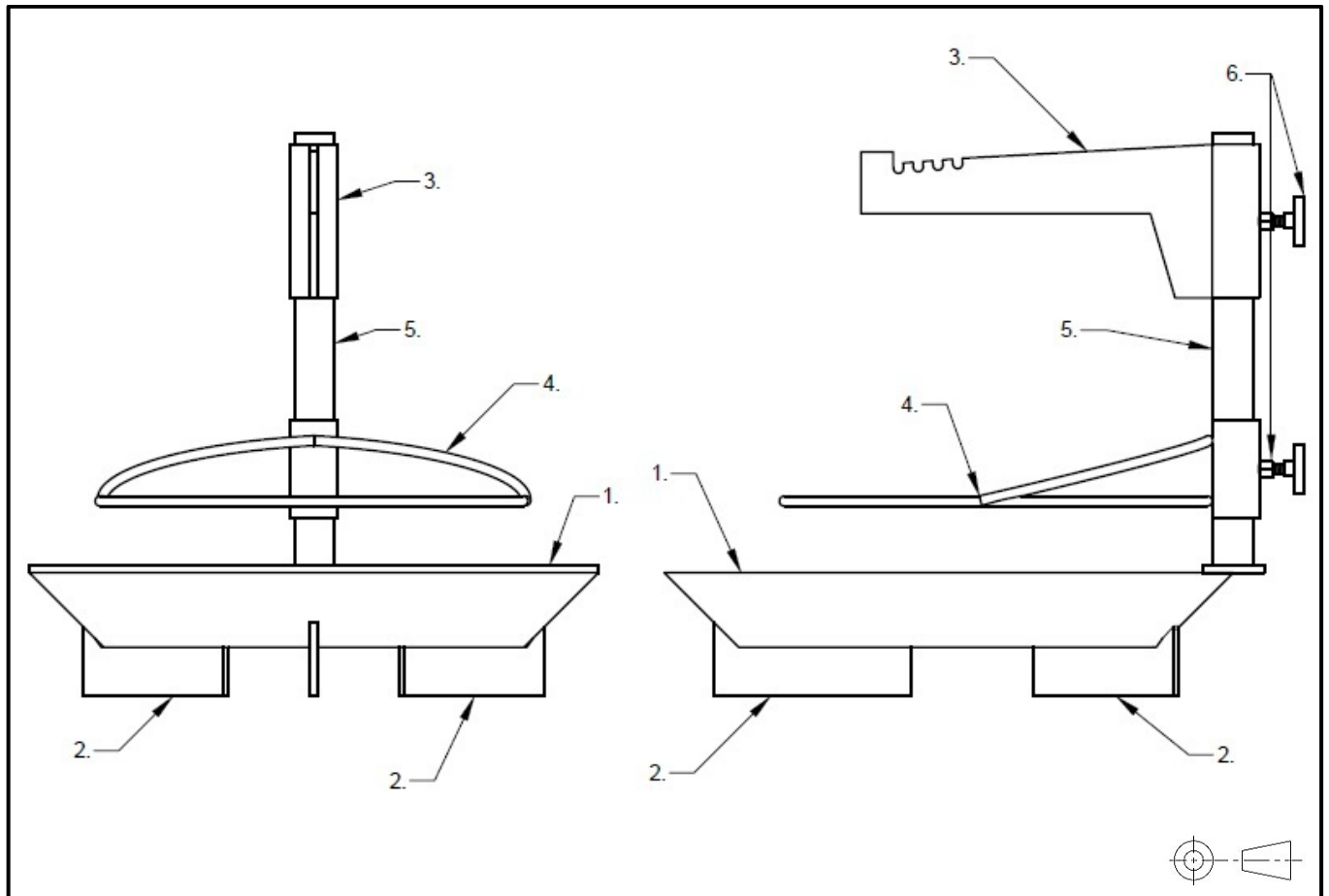
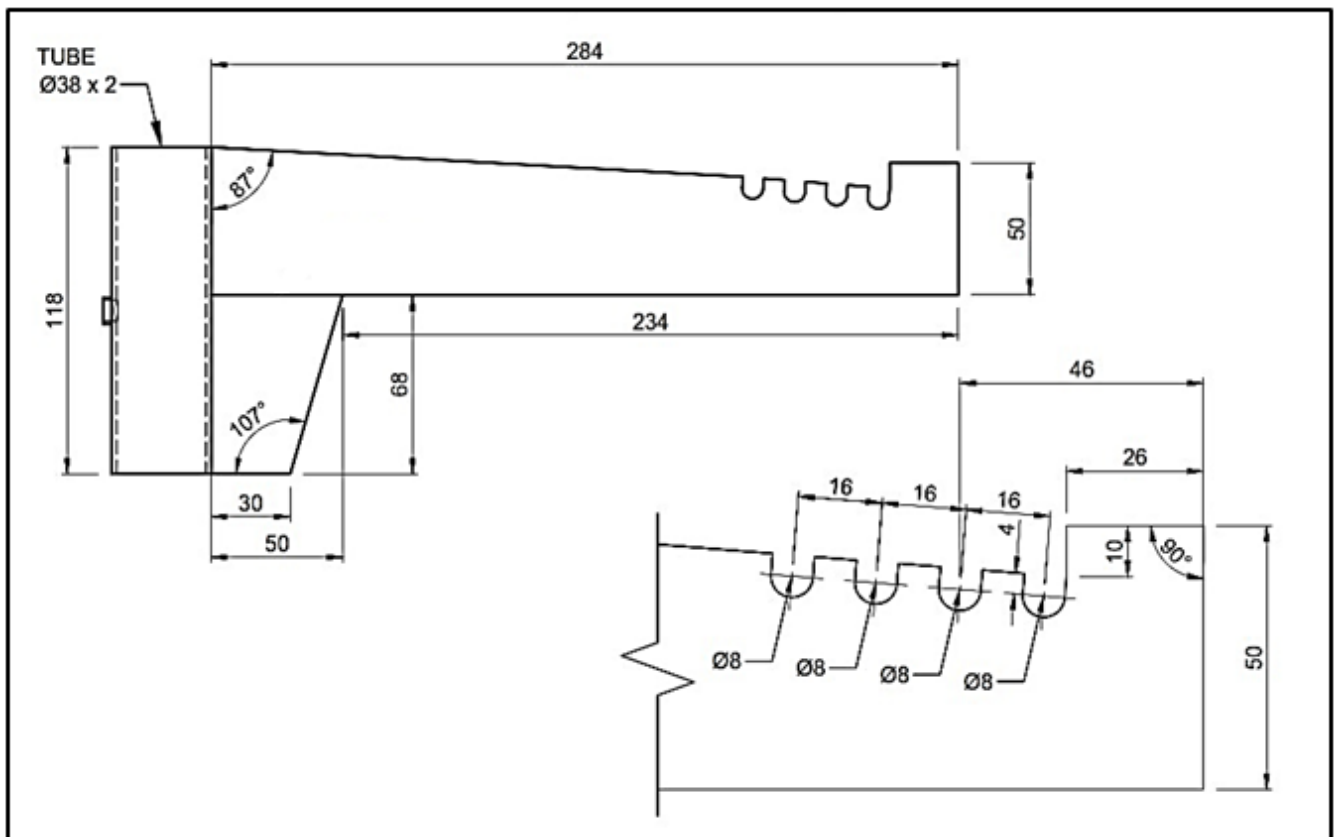
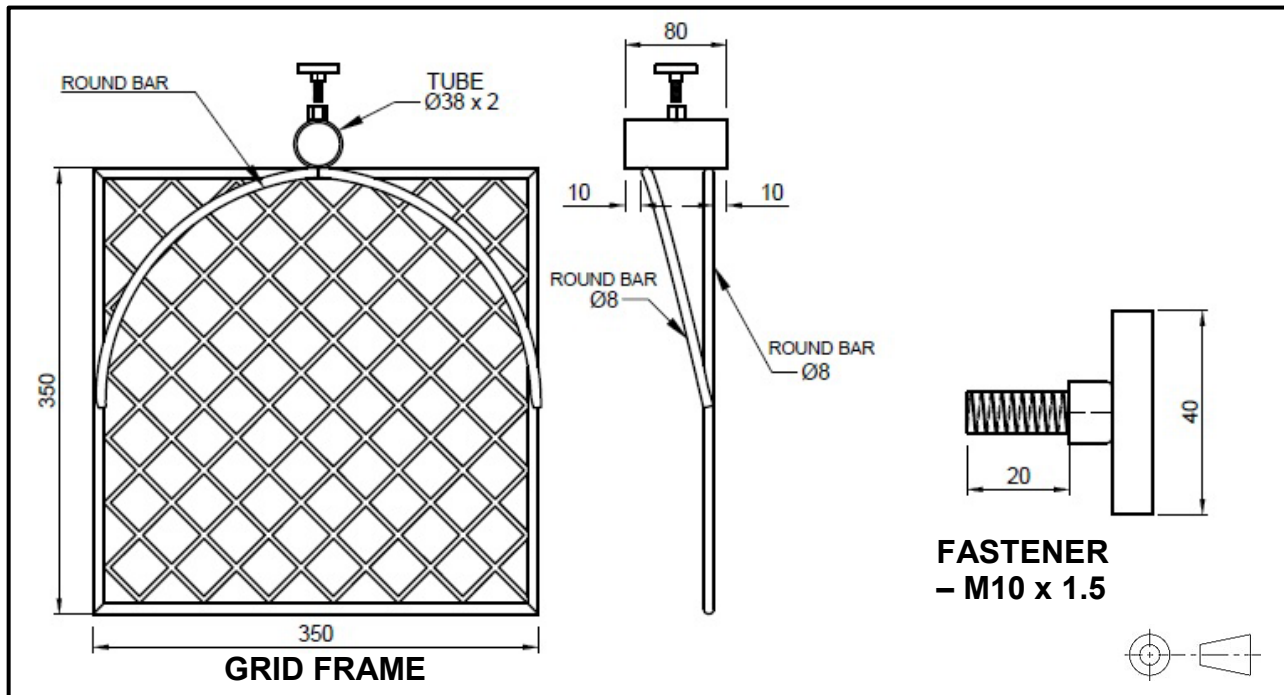


FIGURE 6

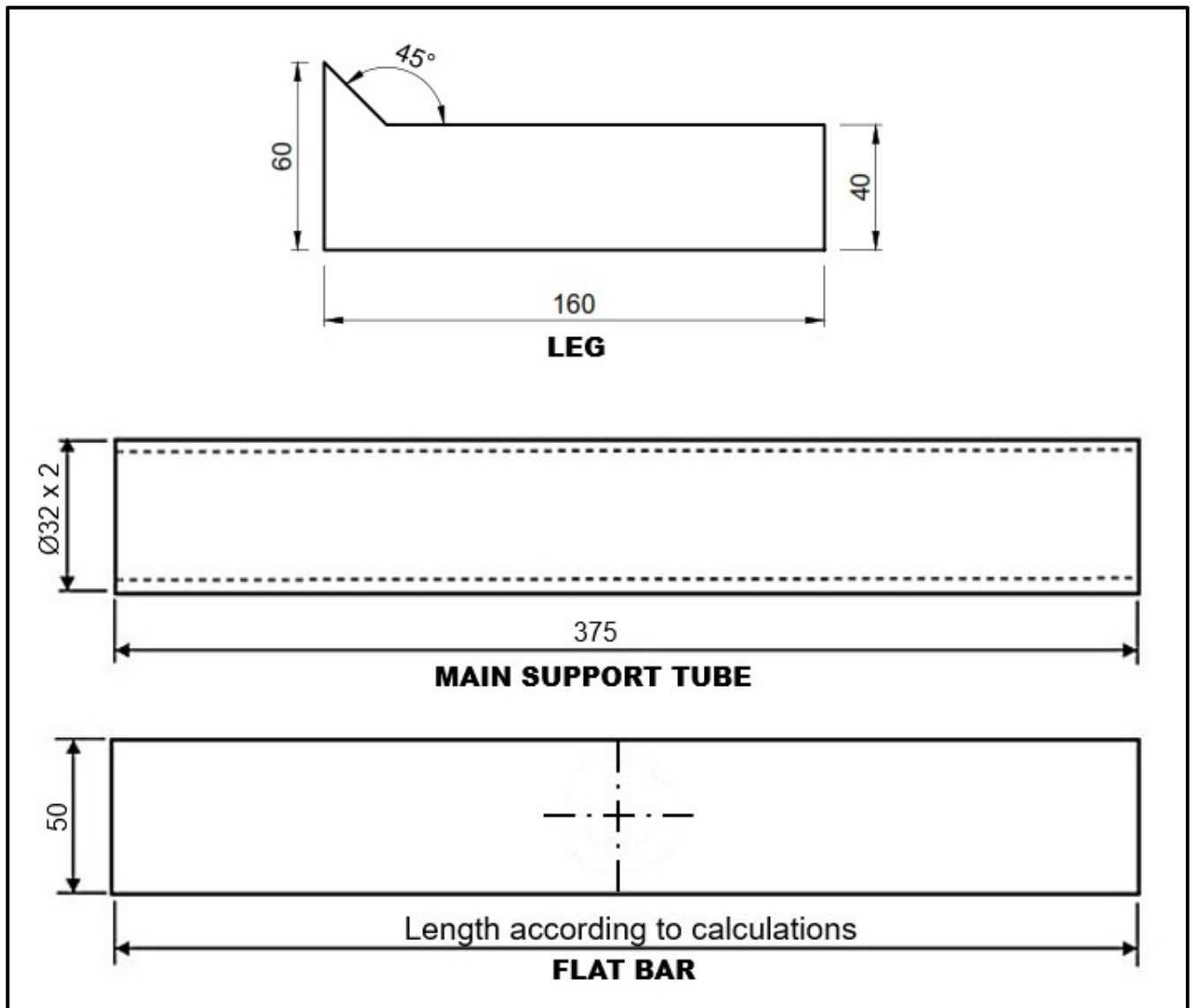
PART LIST		
NO.	PART	QTY
1	ASH PAN	1
2	LEGS	3
3	POT SUPPORT	1
4	GRID FRAME	1
5	MAIN SUPPORT TUBE	1
6	FASTENERS	2

PHASE 1: POT SUPPORT
January–March 2026**FIGURE 7: POT SUPPORT**

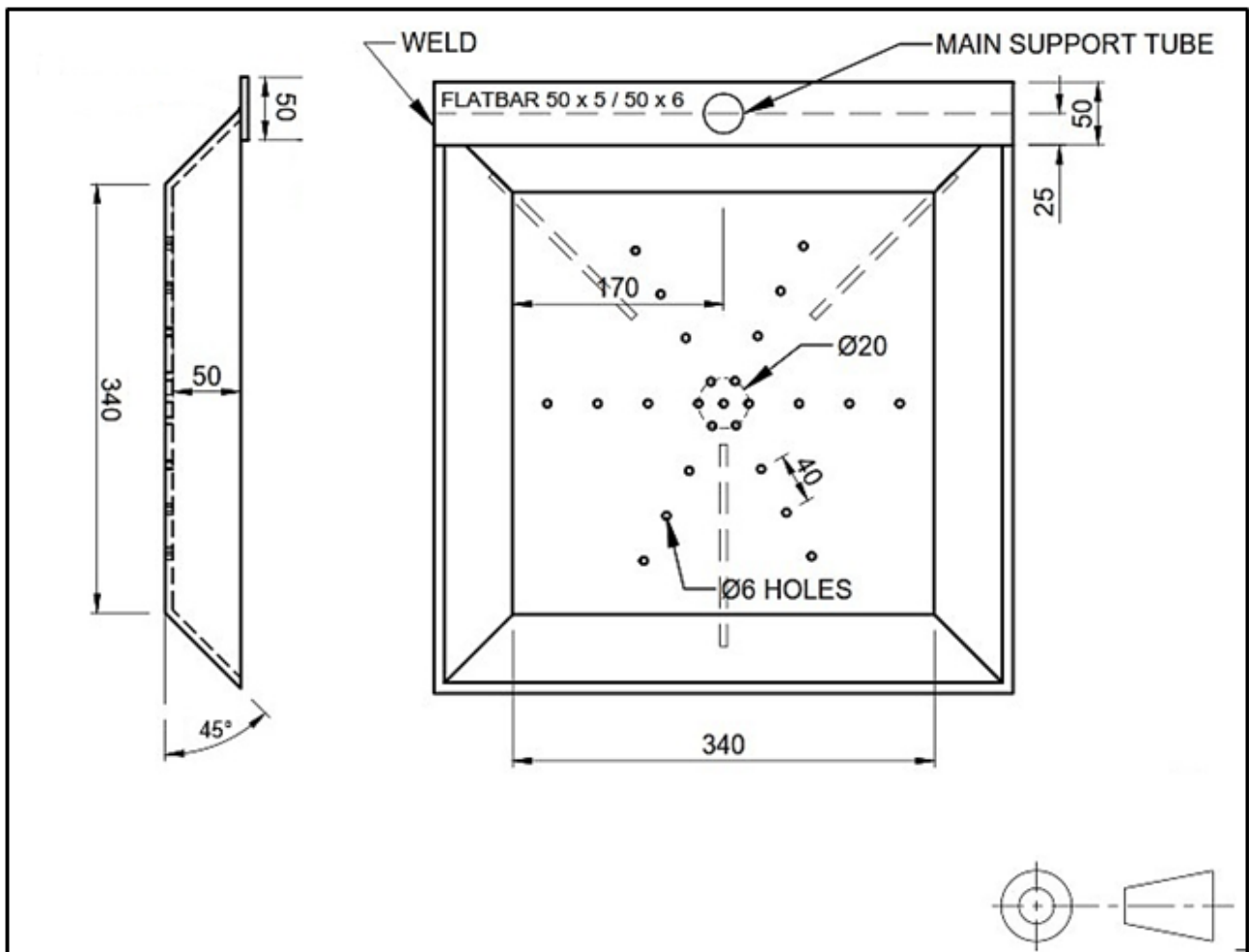
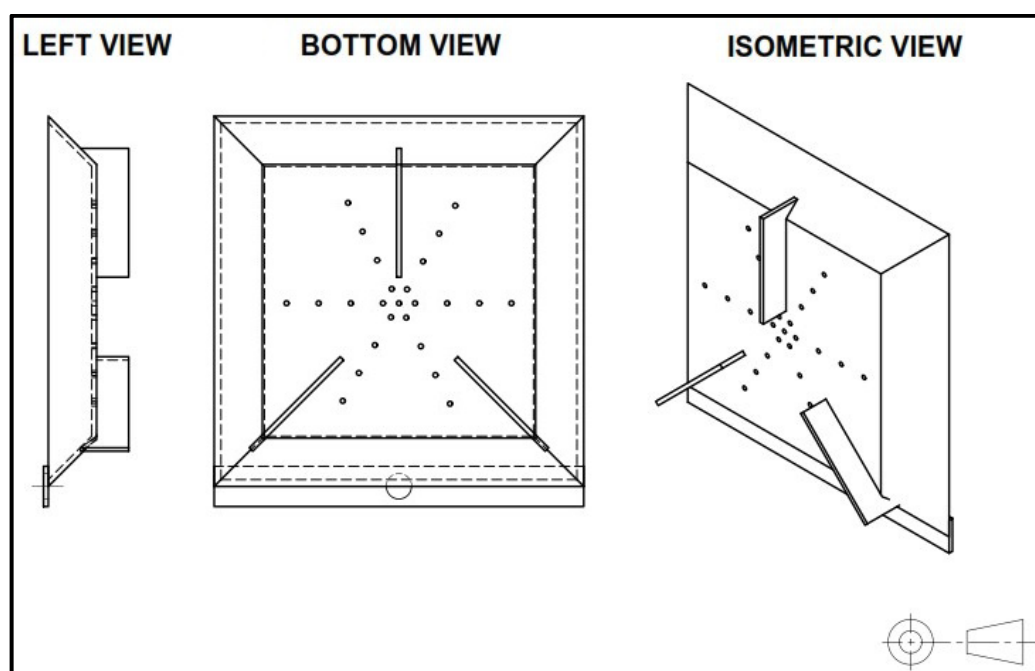
MECHANICAL TECHNOLOGY								
WELDING AND METALWORK								
MARK SHEET – POT SUPPORT – PHASE 1								
GRADE		12	DATE					
PROJECT		POTJIE BRAAI						
CANDIDATE'S NAME:								
FACETS		MARKS	Candidate – Self-assessment	Teacher Assessment	Internal Moderation	Provincial Moderation	External Moderation	TEACHER'S COMMENTS
			1	2	3	4	5	
POT SUPPORT	Measure, mark and cut plates A and B to size. (2 x 5)	10						
	Mark positions of holes and drill.	10						
	Clean all burrs (holes and edges).	5						
	Squareness of plate	5						
	Measure, mark and cut tube to size.	5						
	Drill hole in position and weld M10 nut.	5						
	Weld plates A and B together.	10						
	Weld tube and support in position.	10						
Sub Total:		60						
PHASE 1 TOTAL:		50						
MODERATOR'S COMMENTS:								
NAME AND SIGNATURE OF CANDIDATE								
NAME AND SIGNATURE OF TEACHER								
NAME AND SIGNATURE OF TECHNICAL DEPARTMENTAL HEAD								
NAME AND SIGNATURE OF PROVINCIAL MODERATOR								
NAME AND SIGNATURE OF EXTERNAL MODERATOR								

PHASE 2: GRID FRAME AND FASTENER
April–June 2026**FIGURE 8: GRID FRAME/FASTENER**

MECHANICAL TECHNOLOGY									
WELDING AND METALWORK									
MARK SHEET – GRID FRAME AND FASTENER – PHASE 2									
GRADE		12		DATE					
PROJECT		POTJIE BRAAI							
CANDIDATE'S NAME:									
FACETS			MARKS	Candidate – Self-assessment	Teacher Assessment	Internal Moderation	Provincial Moderation	External Moderation	TEACHER COMMENTS
				1	2	3	4	5	
GRID FRAME	Measure, mark and cut round bar.		10						
	Measure, mark and cut grid to size.		20						
	Mark out and cut tube.		10						
	Clean all burrs.		5						
ASSEMBLY	Weld grid frame and grid.		20						
	Drill 12 mm hole in the tube.		5						
	Weld M10 nut onto tube.		10						
	Cut fastener handle to size and weld onto M10 bolt.		10						
	Weld grid frame and tube in position.		10						
Subtotal:			100						
PHASE 2 TOTAL:			50						
MODERATOR'S COMMENTS:									
NAME AND SIGNATURE OF CANDIDATE									
NAME AND SIGNATURE OF TEACHER									
NAME AND SIGNATURE OF TECHNICAL DEPARTMENTAL HEAD									
NAME AND SIGNATURE OF PROVINCIAL MODERATOR									
NAME AND SIGNATURE OF EXTERNAL MODERATOR									

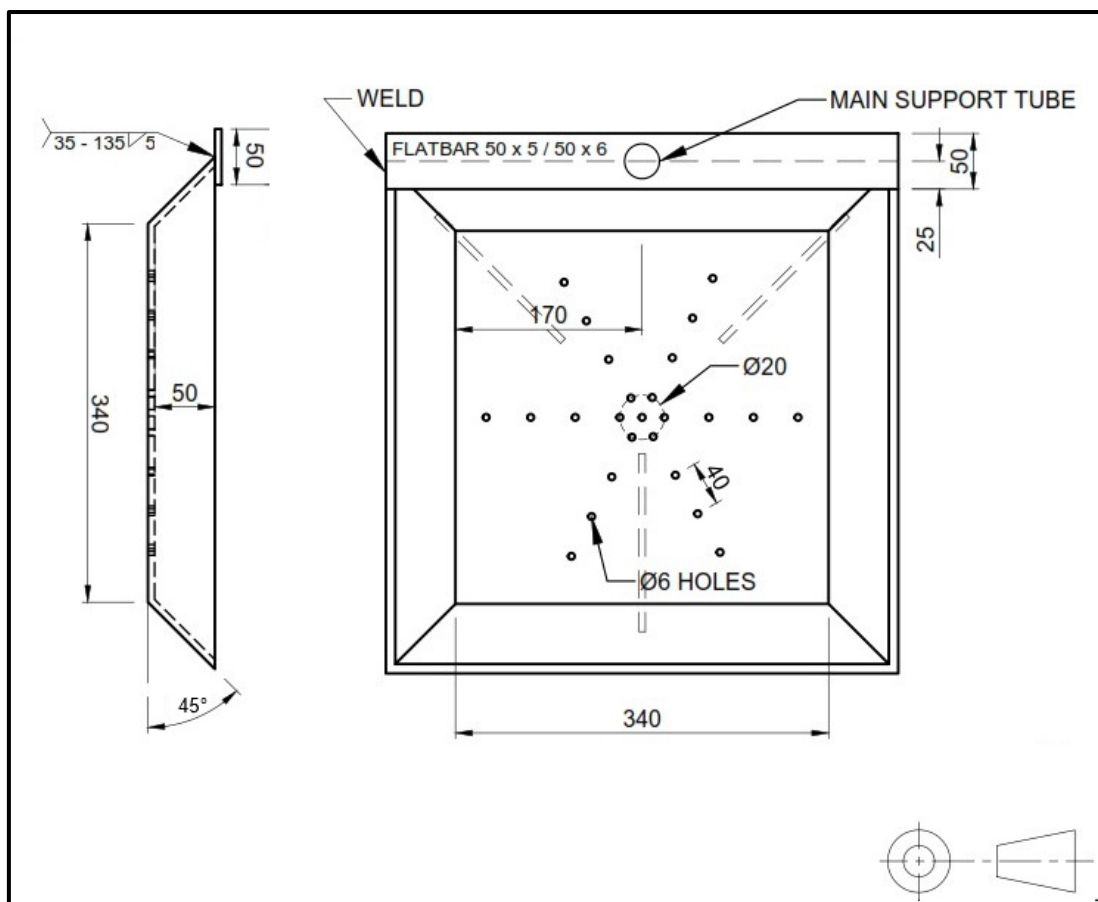
PHASE 3: LEGS, MAIN SUPPORT TUBE AND FLAT BAR
July–August 2026**FIGURE 9: LEGS, MAIN SUPPORT TUBE AND FLAT BAR**

MECHANICAL TECHNOLOGY									
WELDING AND METALWORK									
MARK SHEET – LEGS, MAIN SUPPORT TUBE AND FLAT BAR – PHASE 3									
GRADE		12		DATE					
PROJECT		POTJIE BRAAI							
CANDIDATE'S NAME:									
FACETS		MARKS	Candidate – Self-assessment	Teacher Assessment	Internal Moderation	Provincial Moderation	External Moderation	TEACHER'S COMMENTS	
			1	2	3	4	5		
LEGS	Measure, mark and cut 3 legs pieces to size. (3 x 10)	30							
	Clean burrs.	5							
TUBE	Measure, mark and cut piece to size	5							
	Clean burrs	5							
FLAT BAR	Measure, mark and cut piece to size	5							
	Clean burrs	5							
Sub Total:		55							
PHASE 3 TOTAL:		50							
MODERATOR'S COMMENTS:									
NAME AND SIGNATURE OF CANDIDATE									
NAME AND SIGNATURE OF TEACHER									
NAME AND SIGNATURE OF TECHNICAL DEPARTMENTAL HEAD									
NAME AND SIGNATURE OF PROVINCIAL MODERATOR									
NAME AND SIGNATURE OF EXTERNAL MODERATOR									

PHASE 4: ASH PAN AND FINAL ASSEMBLY
January–August 2026**FIGURE 10: ASH PAN AND FINAL ASSEMBLY****FIGURE 11**

PHASE 4 WORKSHEET: ASH PAN CALCULATION**CANDIDATE'S NAME:**

Calculate the slant true length and sheet metal dimensions to manufacture the ash pan.



(10)

NOTE: This worksheet MUST be available in the candidate's portfolio of evidence.

MECHANICAL TECHNOLOGY								
WELDING AND METALWORK								
MARK SHEET – ASH PAN AND FINAL ASSEMBLY – PHASE 4								
GRADE		12	DATE					
PROJECT		POTJIE BRAAI						
CANDIDATE'S NAME:								
FACETS		MARKS	Candidate – Self-assessment	Teacher Assessment	Internal Moderation	Provincial Moderation	External Moderation	TEACHER'S COMMENTS
			1	2	3	4	5	
ASH PAN	Calculate true length of slope and size of sheet metal required.	10						
	Mark out shape and cut.	5						
	Bend to shape.	5						
	Weld corners. (4 x 5)	20						
	Drill Ø6 holes according to layout.	20						
	Weld flat bar onto pan.	10						
	Clean burrs.	5						
ASSEMBLY	Weld main tube onto flat bar.	10						
	Weld three legs onto ash pan according to layout.	10						
	Attach pot support onto main support.	5						
	Attach grid onto main support	5						
	Clean and paint.	10						
	Fit for purpose.	5						
Subtotal:		120						
PHASE 4 TOTAL:		100						
MODERATOR'S COMMENTS:								
NAME AND SIGNATURE OF CANDIDATE								
NAME AND SIGNATURE OF TEACHER								
NAME AND SIGNATURE OF TECHNICAL DEPARTMENTAL HEAD								
NAME AND SIGNATURE OF PROVINCIAL MODERATOR								
NAME AND SIGNATURE OF EXTERNAL MODERATOR								

MECHANICAL TECHNOLOGY												
WELDING AND METALWORK												
COMPOSITE MARK SHEET – TOTALS												
GRADE		12	DATE									
PROJECT		POTJIE BRAAI										
		CANDIDATES										
PHASES	MARKS											
		1	2	3	4	5	6	7	8	9	10	
PHASE 1	50											
PHASE 2	50											
PHASE 3	50											
PHASE 4	100											
TOTAL:	250											
TOTAL PAT MARK:	100											
NAME AND SIGNATURE OF TEACHER												
NAME AND SIGNATURE OF TECHNICAL DEPARTMENTAL HEAD												
NAME AND SIGNATURE OF SCHOOL PRINCIPAL												
NAME AND SIGNATURE OF PROVINCIAL MODERATOR												
NAME AND SIGNATURE OF EXTERNAL MODERATOR												

SCHOOL STAMP

5. CONCLUSION

On completion of the practical assessment task candidates should be able to demonstrate their understanding of the industry, enhance their knowledge, skills, values and reasoning abilities as well as establish connections to life outside the classroom and address real-world challenges.

The PAT furthermore develops the candidate's life skills and provides opportunities for candidates to engage in their own learning