



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

AGRICULTURAL TECHNOLOGY

GUIDELINES FOR PRACTICAL ASSESSMENT TASKS

2018

These guidelines consist of 26 pages.

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1. INTRODUCTION

The 16 Curriculum and Assessment Policy Statements (CAPS) 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

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-year examination mark. The PAT is implemented across the first three terms of the school year, which 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 also allow for the assessment of skills that cannot be assessed in a written format, e.g. test or examination. It is therefore important for schools to ensure that all learners complete the PAT 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.

2. TEACHER GUIDELINES

2.1 Practical Assessment Task (PAT) for 2018

The aim of the PAT is to teach learners to solve technological problems in the agricultural environment by making use of critical, innovative thinking skills.

The PAT comprises a design component, manufacturing component and a final product. The PAT leads the learner to be able to design and develop the product according to technological processes.

Schools will be informed of the Grade 12 project in the fourth term of Grade 11 of the previous academic year in order to allow the teacher and learner to do planning in advance.

The following is a scenario and complete layout of the example model that can be used as PAT for 2018

Scenario:

A farmer needs a fire bowl that he can use to make a fire in when he wants to hot brand the cattle for identification purposes. Design a fire-proof bowl that can effectively be used in this situation.

The fire bowl must be versatile in order to be used in various circumstances or conditions. It must be light, simple and easy to handle, but sturdy enough to carry heavy loads. It must not easily topple over when used.

Make use of various technological processes to help you in the design and manufacturing of this piece of equipment e.g. planning, investigation, research and various practical skills.

2.2 How to administrate the PAT

This PAT document must be used by the teacher as a guideline of how the PAT must be done. The learner must design and plan the whole PAT individually with guidance from the teacher. The teacher will only provide the learners with the problem statement. Ideally, all the learners should have different PAT designs. The teacher must evaluate the learner's design for practicality and make suggestions before the learner submits the final design portfolio.

If the school/learners decide to do an alternative PAT, the PAT must comply with the prescribed standards set by this PAT guideline document. This will include evidence of the design portfolio, work procedure, rubrics and the evidence of the final project. The criteria and format for assessing the design portfolio; manufacturing process and final product must be the same as that of the prescribed PAT.

The project must consist of at least SEVEN of the given criteria as stated on pages 46-47 in the *Agricultural Technology* Curriculum and Assessment Policy Statement (CAPS).

The model should have functional value and must be usable in real life, farm and workshop situations. The learners should be familiar with the assessment criteria before they start with the task. The PAT must be done under the supervision of the designated teacher.

The Practical Assessment Task in Grade 12 is completed under controlled conditions and is assessed by means of rubrics.

The promotion mark of Agricultural Technology consists of a PAT component of 100 marks (25%), a school-based assessment (SBA) component of 100 (25%) marks and a final examination component of 200 marks (50%).

Before a learner can commence with the manufacturing process, the design portfolio must be completed and assessed by the teacher. The reason for this is that the teacher must identify design flaws for the learner to correct.

The design portfolio and final project must be available for monitoring and moderation. The PAT must be evaluated, checked and authenticated by the teacher before it is presented as the learner's final evidence of performance.

The Teacher's PAT file must contain evidence of:

- (a) The PAT task
- (b) A complete record of assessment and must always be available for monitoring and moderation purposes.

The design portfolio and final project must be available for monitoring and moderation at the school during the entire school year.

External moderation will be done by respective provincial moderators and the national Department of Basic Education. No learner is allowed to take his/her project home before external moderation has been completed.

Failure by the teacher to maintain a record of the assessment of the PAT is a misconduct and will be dealt with in terms of paragraph 5(3) of the policy document, *National policy on the conduct, administration and management of the National Senior Certificate*: A qualification at Level 4 on the National Qualifications Framework (NQF), or other appropriate measures.

The absence of marks for the Practical Assessment Task in Grade 10-12, without a valid reason, will result in the candidate, registered for that particular subject, receiving an incomplete result. The candidate will be given three weeks' time before the commencement of the final end-of-year examination to submit the outstanding Practical Assessment Task. Should the candidate fail to present the Practical Assessment Task the candidate will be informed that he/she did not meet the minimum requirements for promotion and that he/she must repeat the subject the following year.

2.3 Phases in the development of the PAT project

The project should be completed over the following three phases:

2.3.1 Phase 1: Design Portfolio

Learners must identify the problem or need in their chosen project. He/she must also investigate the project, generate ideas and arrive at possible design solutions to make or produce, evaluate and communicate a solution to the problem or need. The evidence of this phase will be located in the design portfolio which will start at the beginning of the last term of grade 11 and continue to the end of January, Grade 12. In this phase the learner must be encouraged to be creative and show initiative.

A Declaration of Authenticity (**ANNEXURE D**) must be completed for each learner before final moderation.

The design portfolio should include evidence of how the development of the product was approached as indicated below:

- Analysis and planning of the assignment
- Relationship between technology, society and environment
- Sketches, diagrams or calculations
- Materials used
- Tools used
- General safety rules that are applicable
- Comparisons of processes and tools to be used
- Cost calculations and material list
- Knowledge and skills needed in the manufacturing process
- Manufacturing processes that were followed
- Planning of time from the start to the final product
- Research or investigations undertaken
- Any other information that is relevant to the project

Format of the design portfolio:

Cover page: Learner's name
Grade
School
Examination number
Year

Index: Assignment
Planning and research
Design sketches
Material list
Tools needed and relevant safety measures
Comparisons of processes and tools to be used
Cost calculations
Source list
Steps to follow
Any additional information

2.3.2 Phase 2: Manufacturing process

Learners start constructing the actual model at the beginning of February during Term 1 in Grade 12 or as soon as a learner has finished with the design portfolio and it has been approved by the teacher. From here the learner commences with Phase 2. The model must be completed by the middle of term 3 in Grade 12.

The learner is expected to do the manufacturing of the model in the school's workshop, under close supervision of the teacher. Processes not performed by the learner cannot be assessed as part of the learner's work.

The model must include a number of practical skills, but it must be remembered that the model must adhere to the minimum number of skills as prescribed by the subject CAPS document.

Continuous assessment must be undertaken by the teacher during the manufacturing process to evaluate and assess certain skills and processes with the aid of the given rubric.

2.3.3 Phase 3: Final product

Learners submit the model for assessment by the end of the third term. The planning done in Phase 1 (design portfolio) must also be submitted for assessment of the final product. For final assessment, the model must be completed and fully functional. The final product must correspond with the planning in Phase 1.

2.4 Criteria and guidelines for PAT assessment

The PAT consists of three phases. Each phase must be assessed by the teacher with the aid of the given rubric.

- The design portfolio must be completed and marked not later than the end of the first term. As soon as a learner is finished with the design portfolio and has been assessed and approved by the teacher, he/she can commence with phase two. The teacher must use the rubric **ANNEXURE A** to assess the design portfolio.
- The manufacturing process is a continuous process and the various skills must continuously be assessed by the teacher when the different skills are applied. The given rubric, **ANNEXURE B** must be used.
- The final product must be evaluated and assessed according to the rubric, **ANNEXURE C**.
- **ANNEXURE D** is a Declaration of Authenticity and must be completed for each learner.
- **ANNEXURE E** must be used by the teacher to ensure that the Agricultural Technology workshop and facility is up to standard for external moderation.
- **ANNEXURE F** and **G** are examples of mark sheets that can be used.

2.4.1 Criteria and guidelines for assessing the design portfolio (25 marks)

- Analysis of problem
- Interrelationship between technology, society and the environment
- Ability to generate ideas
- Providing a solution
- Sketching (dimensions, welding symbols, scale and projection symbols)
- Materials, tools and equipment
- General safety rules
- Cost calculations and material list
- Evidence of comparisons between different processes and skills
- Portfolio presentation

2.4.2 Criteria and guidelines for assessing the manufacturing process (face moderation) (50 marks)

- Safe handling and maintenance of tools and equipment
- Skills related to proper use and maintenance of tools and equipment
- Knowledge of materials to solve problems
- Application of different techniques and processes
- Skills demonstrated in the application of processes

2.4.3 Criteria and guidelines for assessing the quality of the final product (25 marks)

- The product fulfils the purpose for which it was designed and shows innovation that is appropriate to the problem
- Dimensions and measurements of the final product
- Appearance: Finishing includes filing, grinding, sanding and painting
- Ensure that the product functions properly.
- Time management: Check for the completeness of the product.

2.5 MODERATION OF THE PAT

- **Internal moderation (Head of Department)**
The teacher's and learner's PAT portfolio must be moderated by the Head of Department or senior teacher of the subject in the school.
- **External moderation (Subject specialist)**
The subject specialist must do external moderation once a term. At the end of term one the subject specialist must moderate the design portfolio. In the course of term two, the actual manufacturing process by the learner must be moderated. The final product must be moderated in term three, as well as the final PAT mark.
- **External moderation (National Panel)**
A panel of moderators appointed by the National Department of Basic Education will moderate the PAT and practical workshop. **Annexure E** is the moderation tool that will be used by the national panel for moderation of schools.

3. LEARNER GUIDELINES

3.1 Introduction

The model to be constructed by the learners must include the processes taught in the theoretical work over the years from grade 10. These processes are part of various tasks that can be undertaken on a farm. The learners use their skills and knowledge acquired in Agricultural Technology to engage in this project.

3.2 Illustration of the PAT

The photo below shows a practical fire bowl that can be used for heating hot branding irons.



3.3 Cutting list and cost calculation

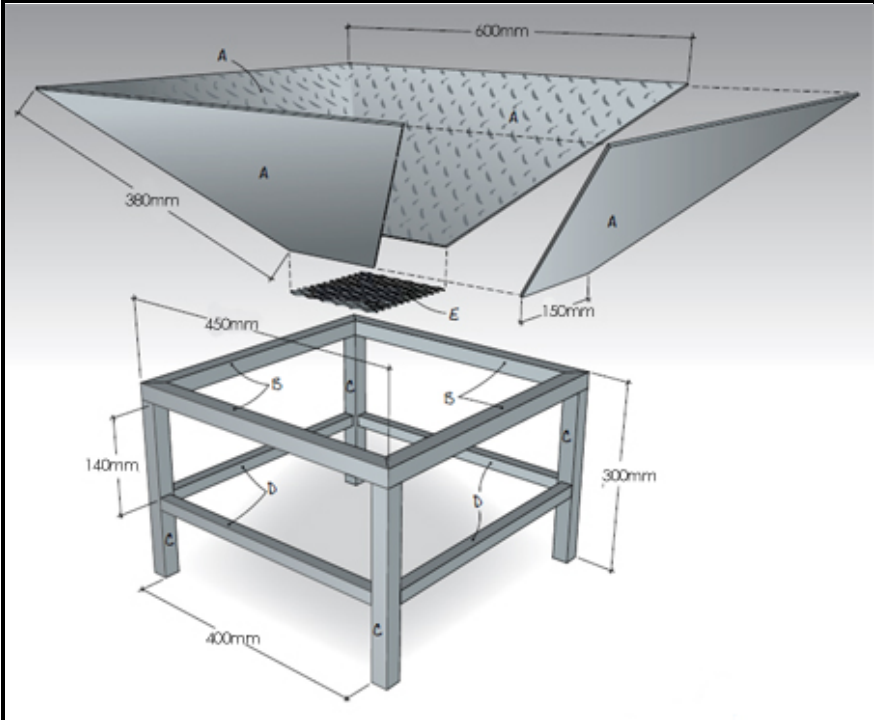
The following material must be purchased and cut according to the given sizes. The prices of the parts were determined by prices at the time this project was planned.

COMPONENT		TYPE OF MATERIAL	MEASUREMENTS	QUANTITY	COST
Bowl sides	A	Tread plate	600 x 380 mm	4	R80,00
Bowl cradle top	B	Square tubing	25 x 25 x 450 mm	4	R40,00
Legs	C	Square tubing	25 x 25 x 450 mm	4	R40,00
Horizontal supports	D	Square tubing	19 x 19 x 400 mm	4	R20,00
Diamond mesh grate	E	Mesh grate	162 x 162 mm	1	R20,00
Consumable materials					R50,00
			Price of material		R200,00
			Total price		R250,00

3.4 Lists of consumable materials, machines and tools which are needed to manufacture the project:

Tools needed			
Cut-off machine		Mitre square	Flat and round file
Drilling machine		Hacksaw	Personal protection clothing
Plasma cutting machine		Scriber	Broom
MIG welding machine		Centre punch	Paint brush
Workbench		Spanners	Hammer
Angle grinder		Pliers	Clamps
Tape measure			
Consumable materials			
Steel drill bit as needed			Hacksaw blades
Grinding/Cutting discs/Plasma cutter accessories (nozzle; inserts; spacers)			Turpentine Pencil
Rust-Oleum high temperature spray paint			Hand cleaner
MIG wire and gas			Undercoat paint

3.5 Procedure to be followed for the manufacturing process

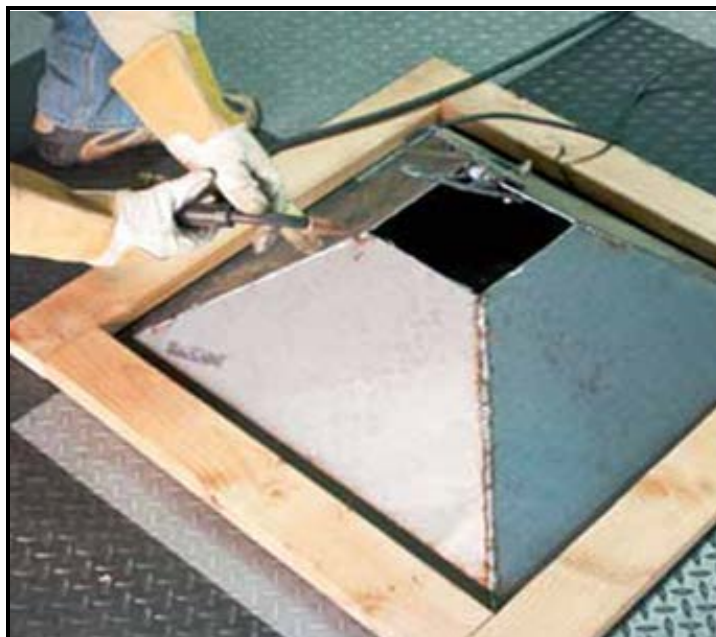
<p>Approximately 2 hours per week is needed for the PAT as prescribed in the CAPS document. Approximately 18 weeks (36 hours) are available for the manufacturing process.</p>	<p>Predicted date</p>
<p>A DESIGN PORTFOLIO (25 Marks)</p> <ol style="list-style-type: none"> 1. The PAT problem/statement/task must be handed to the learners. Teacher must explain the problem/statement/task. Learners have THREE weeks to complete the design portfolio. 2. Teacher must be actively involved and provide support to the learners during the design process. 3. The teacher must collect, evaluate, assess and give feedback to the learner of the finished portfolio before the learners can commence with the manufacturing process. 4. Learners must do the corrections on the design portfolio as indicated. 5. The teacher must record the marks of the design portfolio on the SBA mark sheet. 	<p>Week 1</p> <p>Week 2</p> <p>Week 3</p>
<p>B MANUFACTURING PROCESS (50 Marks) (Teacher must monitor and evaluate the manufacturing process)</p> 	

Step 1

Cut the four sections of tread plate for the fire bowl **[A]** according to the dimensions shown above. Use an angle grinder and metal-cutting disc. Cut the square hollow tube the right lengths. Mitre each end of the four lengths that will form the bowl-cradle pieces **[B]**. Cut accurately or your mitres won't fit tightly together.

Week
4–7**Step 2**

Using scraps, build a wooden frame that measures 612 mm on the inside to serve as an assembly jig for the fire bowl. Position the four bowl sides top-down in the frame so that they all rest together. Run a weld bead down each of the joints.

Week
8–10



Step 3


Use a steel square to accurately position the four mitred lengths of 25 x 25 mm tube that will make up the cradle for the fire bowl. Once the four pieces are properly aligned and square, weld them together.

Week
11–14**Step 4**

Before moving on to the next step, use an angle grinder outfitted with a grinding wheel to smooth the welds at the corners of the bowl cradle.

Week
15-19

<p>Step 5</p> <p>Weld the four legs [C] in position at the corners of the bowl cradle. Use a square to ensure that the legs are properly positioned perpendicular to the cradle. Once you've welded all of the legs in place, smooth-grind the welds.</p> 	Week 20-24
<p>Step 6</p> <p>Weld the bottom 19 x 19 mm horizontal support pieces [D] in place between the legs. Use a scrap of timber to establish the proper position for the support pieces. Once all four are in place, smooth-grind the welds.</p> 	Week 25-27

<p>Step 7</p> <p>Cut a 162 mm square section of metal mesh. Place over the bottom of the fire bowl; weld it in place. (By cutting the mesh just a tiny bit oversize, you'll have metal to work with as the ends of the mesh melt during the welding process.) Grind smooth any remaining welds; clean the entire assembly with mineral spirits and then paint it with Rust-Oleum High Temperature spray. You can also leave it unfinished and your fire bowl will develop a nice patina of rust as it weathers.</p> 	<p>Week 28-29</p>
<p>Testing</p> <ul style="list-style-type: none"> • Test for functionality, durability and strength. • Make adjustments if necessary. • Test again for proper functioning. 	<p>Week 30</p>
<p>Finishing</p> <ul style="list-style-type: none"> • Remove sharp edges with a file or angle grinder. • Sand all surfaces with sanding paper. 	<p>Week 31</p>
<p>Painting</p> <ul style="list-style-type: none"> • Paint/Spray with a rust resistant primer. • Paint/Spray with oil base paint. • Polish the painted area with wax and a buff. 	<p>Week 32</p>
<p>C FINAL PRODUCT (25 Marks)</p> <ul style="list-style-type: none"> • Teacher must evaluate the final product and finalize the PAT marks for the year. • Marks must be recorded on the SBA mark sheets. 	<p>Week 33</p>

SAFETY

- Working safely and using the fire bowl in a responsible manner will reduce your chances of an accident or injury.
- Be sure to wear the appropriate safety gear and clothing for welding and metalworking. Clothing should be made of fire-retardant cotton or wool, never synthetics which can melt.
- Always wear a helmet when welding and a full face shield when grinding.
- Also wear leather welding gloves to protect against burns.
- You should always work in a well-ventilated area.

3.6 Alternative designs



4. ASSESSMENT RUBRIC

ANNEXURE A

Name of Candidate: _____ School: _____ Grade: _____ Date: _____

DESIGN PORTFOLIO	MANUFACTURING PROCESS	QUALITY OF PRODUCT	TOTAL	SIGNATURE OF TEACHER	SIGNATURE OF EXTERNAL MODERATOR
/25	/50	/25	/100		

4.1 ASSESSMENT RUBRIC FOR THE DESIGN PORTFOLIO

CRITERIA	0	1	2	3	4	5	POSSIBLE MARK	MARK OBTAINED
Planning Skills: Analysis and diagnosis	No attempt was made and no evidence to be assessed is found.	Shows a limited attempt to identify and collect information to analyse the given problem or need.	Shows an attempt to identify and collect relevant information to analyse the given problem or need.	Identifies the given problem correctly and collects relevant information to analyse the problem or need.	Analyses the given problem correctly and shows evidence of the use of a wide range of information to understand the problem or need.	Identifies the given problem correctly and uses a variety of investigated strategies to obtain relevant information that assisted in developing and design of innovative ideas.	5	
Interrelationship between technology, society & environment	No attempt was made and no evidence to be assessed is found.	Makes no attempt to consider the interrelationship.	Awareness of the interrelationship was demonstrated.	Awareness and knowledge of interrelationship was demonstrated.	Application and knowledge of interrelationship aspects.	Application and knowledge of interrelationship aspects and the implementing of preventative measures.	5	
Generate ideas	No attempt was made and no evidence to be assessed is found.	Mentions some ideas.	Shows some awareness of alternative ideas	Offers some alternative ideas with a limited reasoning of choices.	Uses original and creative ideas and chooses the most suitable option.	Generates an excellent variety of alternative and innovative ideas. The preferred option is well justified with clear Links to the design.	5	
Solution	No attempt was made and no evidence to be assessed is found.	Attempts to come up with limited design sketches and some specifications. Constraints relating to the given problem.	Attempts to come up with design sketches, specifications and constraints relating to the given problem.	Provides design sketches and a variety of specifications and constraints relating to the given problem.	Provides excellent design sketches and a list of relevant specifications and constraints to the given problem.	Provides excellent innovative design sketches that is extremely well formulated and defines the need according to the given problem.	5	

CRITERIA	0	1	2	3	4	5	POSSIBLE MARK	MARK OBTAINED
Sketching	No attempt was made and no evidence to be assessed is found.	Provides irrelevant sketches that demonstrate limited drawing skills.	Provides some relevant sketches with incorrect lines and/or wrong symbols.	Provides relevant sketches with correct lines and symbols.	Provides sketches with correct lines and symbols and related to the given problem.	Provides excellent sketches according to the given problem considering possible solutions.	5	
Material, tools & equipment list	No attempt was made and no evidence to be assessed is found.	Attempts to list some material, tools & equipment.	Provides a list of material, tools and equipment incorrect or insufficient.	Provides a list of relevant material, tools and equipment.	Provides a list with a variety of relevant material, tools and equipment needed.	Provides a list of the most relevant material, tools and equipment needed in a creative format.	5	
General Safety	No attempt was made and no evidence to be assessed is found.	Attempts to consider Safety Regulations.	Shows some awareness of Safety Regulations.	Shows awareness, knowledge and application of Safety Regulations.	Shows awareness, knowledge and application of Safety Regulations regarding a variety of conditions.	Shows awareness, knowledge and application of Safety Regulations regarding all conditions and considers preventative measures.	5	
Cost calculations and material list	No attempt was made and no evidence to be assessed is found.	Provide a material list with no calculations.	Attempts to do cost calculations by using incorrect units, data and material list.	Provides cost calculations using correct units and data collected without consideration of constraints.	Provides cost calculations using correct units and data collected and considers constraints.	Provides cost calculations using correct units and data collected and considers relevant constraints.	5	
Comparisons	No attempt was made and no evidence to be assessed is found.	No comparisons	Poor comparison of one process	Comparison of different processes, skills and materials	A thorough comparison of different processes, skills and materials	A thorough comparison of different processes, skills and materials and come to a conclusion.	5	
Portfolio presentation	No attempt was made and no evidence to be assessed is found.	The portfolio is incomplete and poorly ordered and prepared.	The portfolio is completed but poorly ordered and prepared.	The portfolio is completed and adequately ordered and prepared.	The portfolio is completed and well presented.	The completed portfolio presentation shows a high level of innovation and creativity.	5	
TOTAL MARK							50÷2= 25	

4.2 ASSESSMENT RUBRIC FOR THE MANUFACTURING PROCESSES							ANNEXURE B	
CRITERIA	0	1	2	3	4	5	POSSIBLE MARK	MARK OBTAINED
Safe handling of tools/ equipment (face moderation)	No attempt was made and no evidence to be assessed is found.	Demonstrates awareness of safety measures.	Demonstrates awareness and knowledge of some safety measures.	Demonstrates adequate knowledge and awareness of applicable safety measures.	Demonstrates sufficient knowledge and awareness of all applicable safety measures.	Demonstrates sufficient knowledge and awareness of all applicable safety measures and apply preventative measures.	5	
Skills relating to handling of tools and equipment (face moderation)	No attempt was made and no evidence to be assessed is found.	Demonstrates limited knowledge and skills of equipment related to tools used.	Demonstrates some knowledge and skills related to tools and equipment used and housekeeping.	Demonstrates adequate knowledge and skills related to tools and equipment used and evidence of housekeeping.	Demonstrate adequate knowledge and skills related to tools and equipment used and good housekeeping.	Demonstrate sufficient knowledge and skills related to maintenance and use of tools and equipment and excellent housekeeping.	5	
Knowledge of materials	No attempt was made and no evidence to be assessed is found.	Shows limited background knowledge on materials used.	Shows some knowledge of materials and their properties.	Shows adequate knowledge of materials and their properties and concepts.	Shows adequate knowledge of materials and their properties, concepts and principles.	Shows sufficient knowledge of materials and their properties, concepts and principles to solve problems.	5	
Process techniques	No attempt was made and no evidence to be assessed is found.	Demonstrate some knowledge of inappropriate techniques used.	Demonstrates limited knowledge of techniques used.	Demonstrates adequate knowledge of correctly selected techniques.	Demonstrates adequate knowledge on how to select and apply the relevant techniques correctly.	Demonstrate sufficient knowledge of correctly selected and applied techniques considering possible constraints.	5	
Skills used in processes (face moderation)	No attempt was made and no evidence to be assessed is found.	Demonstrates limited knowledge of skills needed.	Demonstrate some knowledge of skills needed.	Demonstrate adequate knowledge of skills needed.	Demonstrate adequate knowledge of skills needed and considering some constraints.	Demonstrate sufficient knowledge of skills needed and considering relevant constraints.	5	
TOTAL MARK							25x2=50	

4.3 ASSESSMENT RUBRIC FOR THE QUALITY OF THE FINISHED PRODUCT							ANNEXURE C	
CRITERIA	0	1	2	3	4	5	POSSIBLE MARK	MARK OBTAINED
Address the problem/need	No attempt was made and no evidence to be assessed is found.	The product is incomplete. The completed product lacks details and makes interpretation difficult.	The product is complete but do not address the problem or need at all.	The product is complete and addresses the problem or need partly.	The product fulfils the purpose for which it was designed and shows no real evidence of innovation in the solution to the identified problem or need.	The product fulfils the purpose for which it was designed and shows innovation that is appropriate to the identified problem or need.	5	
Dimensions and measurements of the final product	No attempt was made and no evidence to be assessed is found.	Dimensions differ completely from original design. Shows no effort in making correct measurements.	Dimensions differ from original design but shows some effort in making correct measurements.	Some dimensions differ from original drawing design. More accuracy and effort is shown in making correct measurements.	Dimensions differ slightly from original design. Shows much more accuracy and effort in making correct measurements.	Measurements and dimensions correlate completely with original design.	5	
Appearance: Finishing off. Filing, grinding, sanding and painting	No attempt was made and no evidence to be assessed is found.	No finishing off. No filing, painting or sanding. Shows little effort in making the appearance acceptable.	Product's appearance not acceptable due to some of the finishing methods that were not followed.	Product's appearance acceptable due to some of the finishing methods that were used.	Product's appearance more acceptable due to finishing off that was done but no painting.	Product's appearance is very acceptable and shows a high level of innovation and creativity.	5	
Functionality of the final product. Does the product function properly?	No attempt was made and no evidence to be assessed is found.	The product is incomplete and does not function at all.	The product is complete but it is not functional at all and shows no new improvements.	The product is complete, and functions but shows no new improvements and little innovation.	The product is complete, functions well and shows some new improvements and innovation.	The product is complete, functions very well and shows many new improvements and a very high level of innovation.	5	
Time management	No attempt was made and no evidence to be assessed is found.	Very little evidence of time management.	Demonstrates some sense of time management but planning not realistic.	Evidence of realistic time management on planning but does not keep to the plan.	Manages time well according to the initial plan.	Manages time exceptionally well by considering alternatives according to the initial plan.	5	
TOTAL MARK							25	

4.4 **DECLARATION OF AUTHENTICITY**

ANNEXURE D

DECLARATION OF AUTHENTICITY

The **DESIGN PORTFOLIO** has been presented in one off the following ways: Sourcebook, Workbook or File. It is part of the Subject Portfolio. The **DESIGN PORTFOLIO** must be completed prior to the manufacturing process.

The following has been included in the **DESIGN PORTFOLIO**:

- Analysis of the problem
- Interrelationship between technology, society and the environment
- Ability to generate ideas
- Providing a solution
- Sketching (dimensions, welding symbols, scale, and projection symbols)
- Materials, tools & equipment
- General safety rules
- Cost calculations and material list
- Evidence of comparisons between different processes and skills
- Portfolio presentation

The complete PAT was done under the supervision of the designated teacher and without the help of anybody else. This is to certify that all work submitted is the original and own work of the learner. Processes not performed by the learner have not been assessed as part of the learner's work.

Learner		
School		
District		
	Signature	Date
Learner		
Teacher		
Principal		



4.5 EXTERNAL/INTERNAL MODERATION TOOL FOR PAT ANNEXURE E

AGRICULTURAL TECHNOLOGY

SCHOOL: _____ EMIS No: _____
 EDUCATOR: _____ GRADE: _____
 SUBJECT SPECIALIST: _____ DATE: _____
 NUMBER OF LEARNERS IN GRADE: _____
 NUMBER OF LEARNERS TAKING THE SUBJECT IN GRADE 10-12: _____

1	CONDITION OF THE WORKSHOP	GOOD <input checked="" type="checkbox"/>	ACCEPTABLE <input checked="" type="checkbox"/>	POOR <input checked="" type="checkbox"/>	COMMENTS
	Windows				
	Ceiling				
	Floor				
	Oil resistant floor paint				
	Walls				
	Lights				
	Sufficient electric wall sockets				
	Electric wall sockets in working condition				
	Ventilation				
	Theft proofing				
2	EDUCATOR				YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>
	Preparation File:				
	☞ PAT Guideline Document				
	☞ Mark sheet				
	☞ Learner rubrics				
	☞ Reference Material (Additional information and resources given to learners by the educator)				
	Safety:				
	☞ Safety screens/devices.				
	☞ Acetylene/gas cylinders safe.				
	☞ Welding areas well screened off.				
	☞ Area around dangerous machines demarcated with yellow lines on the floor.				
	☞ Serviced fire extinguisher.				
	☞ First aid kit.				
	☞ Safety posters.				
	☞ Safety signs.				
	☞ Applicable OHS acts implemented in workshop.				
	☞ Number of learners in workshop per session not more than 15 as stipulated by the OHS act.				
	Tools & Equipment:				
	☞ Fully equipped workshop.				
	☞ Basic tools and equipment.				
	☞ Damaged and broken equipment.				
	☞ Shadow boards are against the walls or mobile units.				

	Workshop atmosphere:	
	👍 Posters.	
	👍 Exhibits.	
	👍 Safe layout.	
	👍 Workshop purpose is build.	
	Cleanliness of storeroom:	
	👍 Storeroom is well organized.	
	👍 Storeroom is clean.	
	Cleanliness of workshop:	
	👍 Workshop is clean	
3	LEARNERS PAT PROJECT FILES	YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>
	Learners follow the prescribed PAT.	
	If not, is the PAT project of same standard or higher than the prescribed PAT?	
	All learners have PAT Portfolio Files.	
	All learners have a completed learner summary record sheet.	
	All learners complete the Declaration of Authenticity. (Pg.23)	
	All learners have copies of Design Project Pages (Pg. 9-18) in their PAT Files.	
	Learners sufficiently complete the following phases of the PAT	
	• Design	
	• Manufacturing	
	Evidence exist that all tasks have been assessed by the educator.	
	All the rubrics completed and totals carried over to the mark sheet correctly.	
	The assessment conducted by the educator appear to be fair and reliable.	
	The mark allocation and level of achievement in line with the rest of the province.	
	Adjustment of that average be needed.	
4	OVERALL QUALITY OF THE PROJECT	YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>
	All learners' completed the project.	
	All learners work been internally moderated.	
	Final project match the designs in the portfolio.	
	Marks allocated by the educators in the rubrics match the available evidence in the learner's file.	
5	INTERNAL/EXTERNAL MODERATION	YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>
	There evidence of internal moderation by the H.O.D.	
	There evidence of internal moderation by the Subject specialist.	
6	INTERNAL/EXTERNAL MONITORING	YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>
	There evidence of internal monitoring by the H.O.D.	
	There evidence of internal monitoring by the Deputy principal.	
	There evidence of internal monitoring by the Subject specialist.	

4.6 MARK SCHEDULE

AGRICULTURAL TECHNOLOGY PAT

ANNEXURE F

SCHOOL: _____ CENTER NO: _____ EMIS NUMBER: _____

CIRCUIT: _____ DISTRICT: _____ YEAR: _____

No	Learner	DESIGN PORTFOLIO											MANUFACTURING PROCESSES						QUALITY OF THE FINISHED PRODUCT							
		Planning Skills: Analysis and diagnosis	Interrelationship between technology, society & environment	Generate ideas	Solution	Drawings/Sketching	Material, tools & equipment list	General Safety	Cost calculations and material list	Comparisons	Portfolio presentation	TOTAL 25 (50 / 2=25)	Safe handling of tools/equipment (face moderation)	Skills relating to handling of tools and equipment (face moderation)	Knowledge of materials	Process techniques	Skills used in processes (face moderation)	TOTAL 50 (25 * 2=50)	Address the Problem/need	Dimensions and measurements	Appearance and finishing off	Functionality of final product.	Time management	TOTAL 25	TOTAL A+B+C=100	
		5	5	5	5	5	5	5	5	5	5	25	5	5	5	5	5	50	5	5	5	5	5	25		
1.																										
2.																										
		Total:												Total:							Total:					
		Average:												Average:							Average:					

TEACHER: _____

SIGNATURE OF TEACHER: _____

DATE: _____

PRINCIPAL: _____

SIGNATURE OF PRINCIPAL: _____

DATE: _____

MODERATOR: _____

SIGNATURE OF MODERATOR: _____

DATE: _____

4.7 **CONSOLIDATION FORM**

ANNEXURE G

AGRICULTURAL TECHNOLOGY

SCHOOL: _____ CENTER NUMBER: _____ EMIS NUMBER: _____

CIRCUIT: _____ DISTRICT: _____ YEAR: _____

	CANDIDATES	CANDIDATE EXAM NUMBER	Design portfolio	Manufacturing of product.	Quality of the final product	TOTAL	Moderated mark
			25	50	25	100	100
1.							
2.							
		Total:					
		Average					

TEACHER _____ SIGNATURE OF TEACHER _____ DATE : _____

PRINCIPAL _____ SIGNATURE OF PRINCIPAL _____ DATE : _____

MODERATOR _____ SIGNATURE OF MODERATOR _____ DATE : _____