



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

CIVIL TECHNOLOGY

GUIDELINES FOR PRACTICAL ASSESSMENT TASKS

GRADE 11

2017

These guidelines consist of 36 pages.

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SECTION 1

1. INTRODUCTION

The 16 Curriculum and Assessment Policy Statement 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) mark 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. 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.

SECTION 2

2. GUIDELINES FOR THE TEACHER

(These guidelines must be explained clearly to the learners.)

2.1 The structure of the PAT for Civil Technology

The PAT accounts for the skills the learner has mastered. This is assessed at intervals and requires the learner to engage in multiple practical sessions. During these weekly sessions, skills such as simulation, experimentation, hand skills, tool skills, machine skills and workshop practice are honed and perfected to the point where the learner may engage in the tasks set out for that particular term. The PAT accounts for 25% of the learner's promotion mark.

2.2 Management of the PAT

The PAT should commence in term 1, as this is a lengthy and drawn out process and **CANNOT** be left to the last minute.

- (a) All the components of the PAT (simulations, portfolio, working drawings and model) should be completed and presented for assessment by the end of **August** to allow sufficient time for the external moderation.
- (b) During this phase the teacher will do any final assessments that are outstanding. All learner portfolios, working drawings and models are kept safely until the moderation process is completed (both provincial and national moderation).
- (c) **The internal moderator/HOD must conduct moderation of the PAT throughout the year.**
- (d) It is imperative that the criteria are adhered to from the beginning, as this will form the basis for assessment.
- (e) Teachers cannot penalise learners on points that are not included in the initial criteria.
- (f) When learners are selected during moderation (face moderation), they may be required to showcase their skills and knowledge.

All teachers must design a pacesetter to indicate the completion dates for the different stages of the PAT. The teacher must manage this process to avoid crisis management and unnecessary stress closer to the completion date of the PAT.

The submission dates for the different sections of the PAT, as indicated in the pacesetter, should be given to the learners in writing.

2.3 Administration of the PAT

The PAT should be based on real-life situations and completed under controlled conditions.

Teachers must set dates for the completion of the different phases of the PAT. In this manner learners can assess their progress. In instances where formal assessment tasks take place, it is the responsibility of the teacher to administer assessment tasks.

After studying the guidelines teachers must fully explain the requirements of the different stages of the PAT and the criteria, as indicated in the rubrics and mark schedules, to the learners. This will ensure that learners and teachers have a common understanding of the assessment tools and what is expected of the learners.

Teachers are requested to make copies of **SECTION 3 TO SECTION 5** of this document and hand it to the learners not later than the **first week in February**.

The products/models should not leave the classroom/workshop and must be kept in a safe place at all times when learners are not working on them.

2.4 Assessment and moderation of the PAT

The PAT for Grade 11 is internally set and externally moderated, but internally assessed by the teacher and moderated by the internal moderator/HOD.

2.5 Assessment

Frequent developmental feedback is needed to guide and support to the learner to ensure that the learner is on the right track.

Both formal and informal assessment should be conducted on the different tasks that constitute the PAT. Informal assessment may be conducted by the learner himself or herself, by a peer group, or by the teacher. Formal assessment should always be conducted by the teacher and the results will be recorded.

The teacher must take into account the requirements of the assessment of all the components of the PAT and therefore plan the assessment programme of the PAT accordingly.

2.6 Moderation

During moderation of the PAT the simulations, portfolio, working drawings and the model must be presented to the external moderator.

Where required the moderator should be able to call on the learner to explain the function and principles of operation and also request the learner to exhibit the skills acquired through the capability tasks for moderation purposes. The sequence of events of the technological process may also be requested from the learner.

SECTION 3**3. GUIDELINES FOR THE LEARNER**

Learner's name: _____

Time Allowed: 1st to 3rd term

3.1 Instructions to the learner

- This practical assessment task counts 25% of your final promotion mark.
- All work you produce must be your own effort.
- All sources used must be acknowledged.
- Use your discretion where dimensions and/or information have been excluded.
- Calculations should be clear and include units.
- Calculations should be rounded off to TWO digits.
- Drawings may be hand-drawn (use drawing instruments) or drawn on CAD.
NO photocopies or scanned files of drawings are allowed.
- Photographs and scanned photographs may be used and may be in colour or greyscale.
- SI units should be used.
- Your assignment and assessment instruments should be placed at the back of the design portfolio.
- The marking memorandum for the working drawings must be attached to your working drawings.
- Where available you may use electronic equipment, e.g. cellphones, cameras, digital cameras, etc. to document your progress.
- **The product/model should not leave the classroom/workshop and must be kept in a safe place at all times when you are not working on it.**

The practical assessment task (PAT) consists of TWO simulations, a portfolio, working drawings and a product/model to be completed over three terms.

Computer-aided drawings should be done under the supervision of the teacher.

3.2 Civil Services Tasks

3.2.1 Simulation 1: Cutting and joining galvanised pipes

Materials needed:

- Ø 15 mm galvanised pipe
 - Ø 15 mm galvanised elbow x 3
 - Ø 15 mm galvanised T-piece x 1
 - Hemp (thread-sealing material)
 - M12 threaded rod (300 mm)
 - M12 nuts x 2
 - Ø 10 mm round bar (100 mm)
- } Optional to make G-clamp

Instructions:

- Determine the length of the galvanised pipe from the working drawing.
- Cut galvanised pipes to length using a pipe cutter or hack saw
- Ream and clean ends to be threaded.
- Cut thread on both ends of each pipe OR order threaded pipes.
- Apply hemp to the thread on each pipe.
- Join pipes and fittings, as indicated on the working drawing, using a pipe vice and pipe wrench or two pipe wrenches.

Optional

- Weld the two nuts on either side of the T-piece, as indicated on the working drawing. (Turn the nuts onto the threaded rod and align before welding.)
- Weld the 100 mm piece of round bar to the one end of the threaded rod to form a T.
- Weld a suitable washer to the other end of the threaded rod after it has been inserted through the T-piece with nuts on either side to complete the G-clamp.

Facet sheet

Criteria	Marks	LM
Cut pipe to length as determined from the working drawing. (<i>Correct length and straightness of cut</i>)	2	
Ream and clean ends of pipe to be threaded. (<i>Ream and clean pipe correctly</i>)	2	
Apply hemp correctly to the thread on the end of each pipe. (<i>Hemp to be applied in a clockwise direction around the thread</i>)	2	
Join all pipes to fittings using the correct tools and equipment	4	
Horizontal and vertical alignment of the fittings to form a rectangle (Vertical and horizontal length of the sides of the G-clamp)	3	
Minimal tool marks on pipes and fittings	2	
Clean joints (<i>Trim extra hemp to form a neat joint</i>)	2	
Neatness of total assembly	3	
Total	20	

Completed assembly should be available for moderation.

FIGURE 1 show the working drawing of a G-clamp with the centre to centre distances between members. For the purpose of assessment the threaded rod, nuts and T-piece will be ignored.

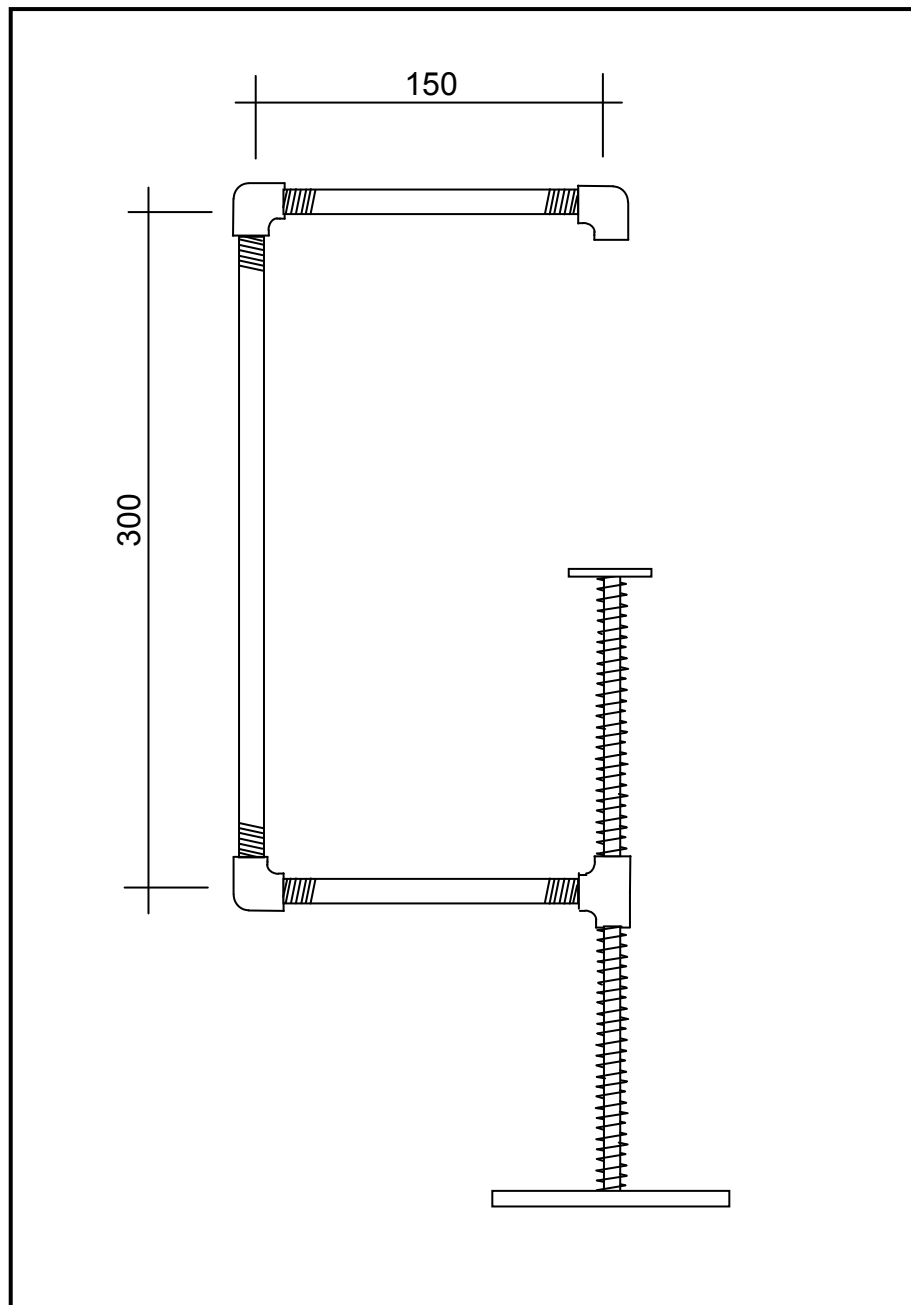


FIGURE 1

3.2.2 Simulation 2: Cutting and joining of PVC waste pipe with connection to a rubber water trap

Materials needed:

- ONE S-trap with clamp
- TWO 90° elbows (50 mm PVC)
- Ø 50 mm PVC waste pipe (600 mm)
- PVC glue

Instructions:

- Cut the 600 mm length of pipe in 200 mm pieces (3).
- Cut the one end of the first 200 mm pipe at a 45° angle.
- Join the THREE pipes, as indicated on the working drawing, using PVC glue.
- Join the top part of the pipe to a rubber S-trap using a suitable clamp.

Facet sheet

Criteria	Marks	LM
Cut pipe to length, as determined from the working drawing. (<i>Correct length and straightness of cut</i>)	6	
Cut ONE pipe at a 45° angle.	2	
Clean ends of pipes using an appropriate file.	3	
Apply PVC glue to the inside of one part of the elbow and join the first pipe. Follow the same method to join all the parts, as indicated in the working drawing. (<i>Pipes must be inserted to the maximum depth the elbow allows</i>)	4	
Fit the one end of the S-trap to the waste pipe and secure with clamp.	3	
Pipe assembly correctly aligned so that the 45° angle pipe end faces away from the wall.	2	
Total	20	

*Completed joint should be available for moderation.
The water trap should be kept and re-used.*

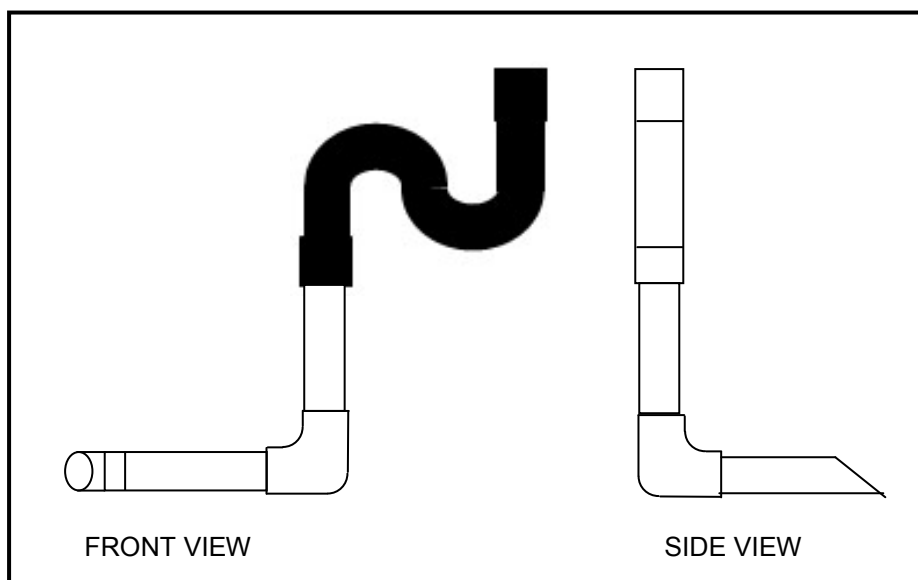


FIGURE 2

3.2.3 Model (Civil Services)

Instructions:

Learners should use discretion where details have been omitted.
Develop and compile a portfolio to show the following.

- Cover page
- Table of contents
- Declaration of authenticity
- Research
- Soft solder:
 - Explain the process and apparatus
 - Types of solder
 - Properties of solder
 - Soldering irons
 - Tinning a soldering iron
 - Flux used for soft soldering (types and purpose)
- A list of tools to make the tool caddy
- A list of materials to make the tool caddy

FIGURE 3 below shows a drawing of a sheet metal tool caddy.



FIGURE 3

Use the marking memorandum for the drawings as a guide and draw the following:

- The front, left and top view of this holder in first-angle orthographic projection to scale 1 : 2
- The pattern development of this holder to use as a template to make this model. Use scale 1 : 1.

Specifications:

- Height of the ends 220 mm
- Height of sides 100 mm
- Length 400 mm
- Width 200 mm
- Overlap for joints 10 mm
- Use appropriate sheet metal joints

Model:

Make the tool caddy from galvanised sheet metal, according to scale 1 : 1, using the specifications above. (The tray is optional.)

3.3 Tools for assessment of Civil Services tasks

3.3.1 Rubric for assessment of the portfolio

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Presentation	Cover page	Six of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Five of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Four of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Template used. Fewer than four of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Table of contents	All the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Three of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Two of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	One of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Declaration of authenticity	Included in portfolio, signed by both the teacher and learner with school stamp.	Included in portfolio, signed by both the teacher and learner but not stamped.	Included in portfolio but only signed by the teacher.	Included in portfolio but not signed by both the teacher and learner.	Not included in portfolio.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
Content of portfolio	Evidence	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings, completed mark sheets for the portfolio and model and for both simulations.	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings, completed mark sheets for the portfolio and model.	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings.	All aspects as required are included in the portfolio: Research, working drawings.	No evidence
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Tools and material to make the model	List of tools	MORE than ADQUATE hand and power tools are indicated correctly in an orderly manner extremely neat under different headings.	ADQUATE hand and power tools are indicated correctly in an orderly and neat manner under different headings.	LESS than ADQUATE hand and power tools are indicated satisfactorily in an orderly and neat manner under different headings.	EXTREMELY FEW hand and power tools are indicated in an untidy manner without different headings.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	List of materials	MORE than ADQUATE materials are indicated correctly in an orderly manner extremely neat under different headings.	ADQUATE materials are indicated correctly in an orderly and neat manner under different headings.	LESS than ADQUATE materials are indicated satisfactorily in an orderly and neat manner under different headings.	EXTREMELY FEW materials are indicated in an untidy manner without different headings.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Adherence to deadlines	Adherence to deadlines	Design portfolio submitted BEFORE OR ON due date.	Design portfolio submitted ONE TO THREE days late.	Design portfolio submitted FOUR TO SIX days late.	Design portfolio submitted later than SEVEN OR MORE days.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

3.3.2 Marking memorandum for the working drawings (CIVIL SERVICES)

Learner's name: _____ Grade: 11 _____

SCALE DRAWINGS	ASSESSMENT CRITERIA	MARK ALLOCATION			LEARNER MARK
		Good	Average	Poor/ Not done	
DRAWING 1 ORTHOGRAPHIC DRAWINGS	Front view	4–5	2–3	0–1	
	Top view	3–4	2	0–1	
	Left view	3–4	2	0–1	
	Hidden details	3–4	2	0–1	
	Use of correct line types (outside lines and construction lines)	3–4	2	0–1	
	Dimensions	3	2	0–1	
	Title and scale	2	1	0	
	Application of scale	3–4	2	0–1	
SUBTOTAL		30			
DRAWING 2 PATTERN DEVELOPMENT	Pattern correctly developed	8–14	4–7	0–3	
	Application of scale	3–4	2	0–1	
	Title and scale	2	1	0	
SUBTOTAL		20			
TOTAL		50			
CONVERTED TO		10			

NOTE: The teacher should draw a mask to mark these drawings.

3.3.3 Rubric for assessment of the final product/model Civil Services

NOTE: 'Not presented' or 'not attempted' will receive a 0 (zero) mark.

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Manufacturing competency for:	Marking	Demonstrate an OUTSTANDINGLY HIGH LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Demonstrate a HIGH LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Demonstrate a SATISFACTORY LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Demonstrate an UNACCEPTABLE LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Cutting	Demonstrate an OUTSTANDINGLY HIGH LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Demonstrate a HIGH LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Demonstrate a SATISFACTORY LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Demonstrate an UNACCEPTABLE LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Not attempted.
	Level x 3	Level 4	Level 3	Level 2	Level 1	Level 0
	Assembly/ Joining	Demonstrate an OUTSTANDINGLY HIGH LEVEL of skill and competence to assemble and join the different parts of the model correctly and accurately.	Demonstrate a HIGH LEVEL of skill and competence to join the different parts of the model correctly and accurately.	Demonstrate a SATISFACTORY LEVEL of skill and competence to assemble and join the different parts of the model correctly and accurately.	Demonstrate an UNACCEPTABLE LEVEL of skill and competence to assemble and join the different parts of the model correctly and accurately.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Finishing	Demonstrate an OUTSTANDINGLY HIGH LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Demonstrate a HIGH LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Demonstrate a SATISFACTORY LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Demonstrate an UNACCEPTABLE LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Overall impression	The overall appearance and surface finishing is of an OUTSTANDINGLY HIGH quality with NO obvious defects.	The overall appearance and surface finishing is of a HIGH quality with VERY FEW obvious defects.	The overall appearance and surface finishing is of a SATISFACTORY quality with EASILY observed defects.	The overall appearance and surface finishing is of a POOR quality with MANY easily observed defects.	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

3.3.4 COMPOSITE MARK SHEET CIVIL SERVICES

No	NAME OF LEARNER	SIMULATIONS				PORTFOLIO							SCALE DRAWINGS					MODEL						TOTAL		
		SIMULATION 1	SIMULATION 2	TOTAL: 40	MODERATED MARK	PRESENTATION	CONTENT OF PORTFOLIO	LIST OF TOOLS AND MATERIALS	ADHERENCE TO DEADLINES	TOTAL: 28	TOTAL: 10	MODERATED MARK	DRAWING 1	DRAWING 2	TOTAL: 50	TOTAL: 10	MODERATED MARK	MARKING	CUTTING	ASSEMBLY/JOINING	FINISHING	OVERALL IMPRESSION	TOTAL: 40	MODERATED MARK	GRAND TOTAL: 100 (S1 + S2 +P+WD+M)	MODERATED MARK
		20	20	40	40	12	4	8	4	28	10	10	30	20	50	10	10	8	12	8	8	4	40	40	100	100
1																										
2																										
3																										
4																										
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6																										
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
TOTAL																										
AVERAGE																										

Signature of (Teacher)_____
Date_____
Signature of (Moderator)_____
Date

SCHOOL STAMP

3.4 Construction Tasks

The practical assessment task (PAT) consists of TWO simulations, portfolio, working drawings and a product/model to be completed over three terms.

Computer-aided drawings should be done under the supervision of the teacher.

3.4.1 Simulation 1: Dry-packing a one-brick wall in English bond with a dead end on the one side and toothing on the other side.

Tools and equipment:

- Chalk line
- Builder's square
- Tape measure
- Spirit level

Materials

- Bricks
- Queen closers

Instructions:

- Mark the length and width of the wall on the floor, using the tools listed above.
- Dry-pack 6 brick courses of the wall, as shown in the drawing below.
- Ensure that the wall is plumb and straight by using the tools listed above.
- Use the correct tools.
- Clean the surrounding area and pack away the tools.

FIGURE 3.4.1 below shows a one-brick wall in English bond with a dead end on the one side and toothing on the other side.

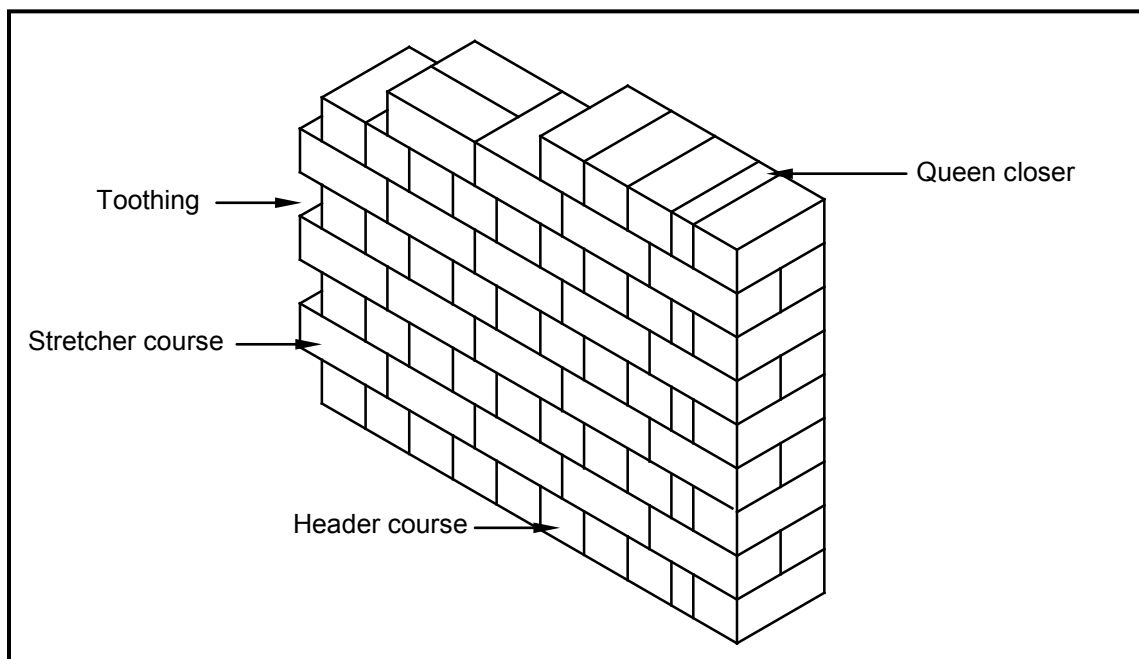


FIGURE 3.4.1

Facet sheet

Criteria	Marks	LM
Draw guide lines on the floor	4	
Stretcher course	4	
Header course	4	
Correct placement of queen closer	2	
Wall is plumb	2	
Wall is straight	2	
Clean surrounding area and pack away tools	2	
Total	20	

Take photographs to provide as evidence. Face moderation may be done.

3.4.2 Simulation 2: Dry-packing the T-junction of a one-brick wall in English bond with raking back on the one side and toothing on the other side.

Tools and equipment:

- Chalk line
- Builder's square
- Tape measure
- Spirit level

Materials:

- Bricks
- Queen closers

Instructions:

- Mark the length and width of the T-Junction on the floor using the tools listed above.
- Dry-pack 6 brick courses of the wall, as shown in the drawing below.
- Ensure that the wall is square, plumb and straight by using the tools listed above.
- Use the correct tools.
- Clean the surrounding area and pack away the tools.

FIGURE 3.4.2 below shows a T-junction of one-brick wall in English bond with raking back on the one side and toothing on the other side.

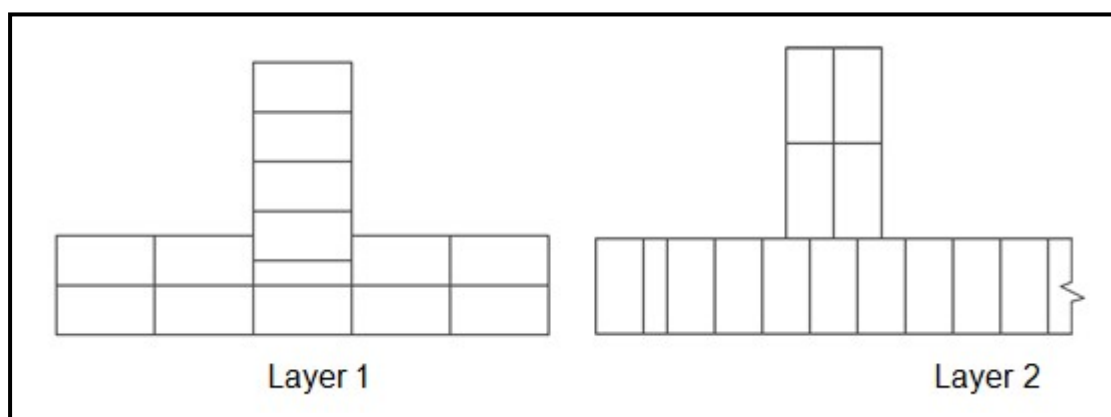


FIGURE 3.4.2

Facet sheet

Criteria	Marks	LM
Draw guide lines on the floor	4	
Stretcher course	4	
Header course	4	
Correct placement of queen closer	2	
Corners are square	2	
Wall is straight	2	
Clean surrounding area and pack away tools	2	
Total	20	

Take photographs to provide as evidence. Face moderation may be done.

3.4.3 Model (Construction)**Instructions**

Learners should use their own discretion where details have been omitted.
Develop and compile a design portfolio to show the following.

- Cover page
- Table of contents
- Declaration of authenticity
- Research
 - Definition of different types of arches
 - Purpose of the different types of arches
 - Different types of materials used for the semi-circular arch
- A list of tools to make the centre (formwork) for a semi-circular arch
- A list of materials to make the centre (formwork) for a semi-circular arch

FIGURE 3.4.3 is a photograph of a semi-circular arch with the surrounding brickwork in English bond.



FIGURE 3.4.3

Use the marking memorandum for the drawings as a guide and draw the following:

- A front view of the semi-circular arch with a span of 1 000 mm and surrounding brickwork in English bond to scale 1 : 10.
 - Show the key brick and all the voussoirs.
 - Show the striking point and method to draw the voussoirs.
 - Show all relevant detail and labels.

- A front view of the centre used to build the arch to scale 1 : 10.
 - Show at least FOUR open laggings on the one end and FOUR closed laggings on the opposite end.
 - Use timber for the laggings.
 - Show wedges and bearers and TWO props to show how the centre is supported.

Model:

Build the arch as shown in FIGURE 3.4.3 according to the measurements in the working drawings. Use building sand and lime as mortar.

3.5 **Assessment tools: Construction**3.5.1 **Rubric for assessment of the portfolio: Construction**

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Presentation	Cover page	Six of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Five of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Four of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Template used. Fewer than four of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Table of contents	All the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Three of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Two of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	One of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Declaration of authenticity	Included in portfolio, signed by both the teacher and learner with school stamp.	Included in portfolio, signed by both the teacher and learner but not stamped.	Included in portfolio but only signed by the teacher.	Included in portfolio but not signed by both the teacher and learner.	Not included in portfolio.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
Content of portfolio	Evidence	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings, completed mark sheets for the portfolio and model and for both simulations.	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings, completed mark sheets for the portfolio and model.	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings.	All aspects as required are included in the portfolio: Research, working drawings.	No evidence
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Tools and material to make the model	List of tools	MORE than ADQUATE hand and power tools are indicated correctly in an orderly manner extremely neat under different headings.	ADQUATE hand and power tools are indicated correctly in an orderly and neat manner under different headings.	LESS than ADQUATE hand and power tools are indicated satisfactorily in an orderly and neat manner under different headings.	EXTREMELY FEW hand and power tools are indicated in an untidy manner without different headings.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	List of materials	MORE than ADQUATE materials are indicated correctly in an orderly manner extremely neat under different headings.	ADQUATE materials are indicated correctly in an orderly and neat manner under different headings.	LESS than ADQUATE materials are indicated satisfactorily in an orderly and neat manner under different headings.	EXTREMELY FEW materials are indicated in an untidy manner without different headings.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Adherence to deadlines	Adherence to deadlines	Design portfolio submitted BEFORE OR ON due date.	Design portfolio submitted ONE TO THREE days late.	Design portfolio submitted FOUR TO SIX days late.	Design portfolio submitted later than SEVEN OR MORE days.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

3.5.2 Marking memorandum for the working drawings (CONSTRUCTION)

Learner's name: _____ Grade: 11 _____

SCALE DRAWINGS	ASSESSMENT CRITERIA	MARK ALLOCATION			LEARNER MARK
		Good	Average	Poor/ Not done	
DRAWING 1 FRONT ELEVATION OF ARCH	Surrounding brickwork in English bond	4–5	2–3	0–1	
	Striking point, radius and arc	3	2	0–1	
	Voussoirs	3–4	2	0–1	
	Key brick	3–4	2	0–1	
	Labels	4–5	2–3	0–1	
	Dimensions	3	2	0–1	
	Title and scale	2	1	0	
	Application of scale	3–4	2	0–1	
SUBTOTAL		30			
DRAWING 2 FRONT VIEW OF CENTRE	Centre drawn correctly	3–4	2	0–1	
	Laggings drawn correctly	3–4	2	0–1	
	Wedges, bearers and prop drawn correctly on one side of the arch	3–4	2	0–1	
	Labels	3	2	0–1	
	Title and scale	2	1	0	
	Application of scale	3	2	0–1	
SUBTOTAL		20			
TOTAL		50			
CONVERTED TO		10			

NOTE: The teacher should draw a mask to mark these drawings

3.5.3 **Rubric for assessment of the final product/model: Construction****NOTE:** 'Not presented' or 'not attempted' will receive a 0 (zero) mark.

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Manufacturing competency for:	Marking of position of wall on floor	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to mark out the position of the wall correctly and accurately on the floor using correct tools.	Demonstrates a HIGH LEVEL of skill and competence to mark out the position of the wall correctly and accurately on the floor using correct tools.	Demonstrates a SATISFACTORY LEVEL of skill and competence to mark out the position of the wall correctly and accurately on the floor using correct tools.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to mark out the position of the wall correctly and accurately on the floor using correct tools.	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Setting up profiles	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to set up the profiles correctly and accurately. Marks brick courses on profiles accurately.	Demonstrates a HIGH LEVEL of skill and competence to set up the profiles correctly and accurately. Marks brick courses on profiles accurately.	Demonstrates a SATISFACTORY LEVEL of skill and competence to set up the profiles correctly and accurately. Marks brick courses on profiles accurately.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to set up the profiles correctly and accurately. Marks brick courses on profiles accurately.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Building surrounding brickwork	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to lay the bricks for the surrounding brickwork correctly and accurately.	Demonstrates a HIGH LEVEL of skill and competence to lay the bricks for the surrounding brickwork correctly and accurately.	Demonstrates a SATISFACTORY LEVEL of skill and competence to lay the bricks for the surrounding brickwork correctly and accurately.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to lay the bricks for the surrounding brickwork correctly and accurately.	Not attempted.
	Level x 3	Level 4	Level 3	Level 2	Level 1	Level 0
	Building the arch	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to position the centre and to lay the bricks for the arch correctly and accurately.	Demonstrates a HIGH LEVEL of skill and competence to position the centre and to lay the bricks for the arch correctly and accurately.	Demonstrates a SATISFACTORY LEVEL of skill and competence to position the centre and to lay the bricks for the arch correctly and accurately.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to position the centre and to lay the bricks for the arch correctly and accurately.	Not attempted.
	Level x 3	Level 4	Level 3	Level 2	Level 1	Level 0
	Overall impression	The overall appearance of the arch and surrounding brickwork is of an OUTSTANDINGLY HIGH quality, plumb and joints neatly finished off with NO obvious defects.	The overall appearance of the arch and surrounding brickwork is of a HIGH quality, plumb and joints neatly finished off with NO obvious defects.	The overall appearance of the arch and surrounding brickwork is of a SATISFACTORY quality with EASILY observed defects.	The overall appearance of the arch and surrounding brickwork is of POOR quality with MANY easily observed defects.	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

3.5.4 COMPOSITE MARK SHEET: CONSTRUCTION

No	NAME OF LEARNER	SIMULATIONS				PORTFOLIO						SCALE DRAWINGS					MODEL						TOTAL			
		SIMULATION 1	SIMULATION 2	TOTAL: 40	MODERATED MARK	PRESENTATION	CONTENT OF PORTFOLIO	LIST OF TOOLS AND MATERIALS	ADHERENCE TO DEADLINES	TOTAL: 28	TOTAL: 10	MODERATED MARK	DRAWING 1	DRAWING 2	TOTAL: 50	TOTAL: 10	MODERATED MARK	MARKING OF POSITION OF WALL	SETTING UP PROFILES	SURROUNDING BRICKWORK	BUILDING THE ARCH	OVERALL IMPRESSION	TOTAL: 40	MODERATED MARK	GRAND TOTAL: 100 (S1 + S2 +P+WD+W)	MODERATED MARK
		20	20	40	40	12	4	8	4	28	10	10	30	20	50	10	10	4	8	12	12	4	40	40	100	100
1																										
2																										
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13																										
14																										
TOTAL																										
AVERAGE																										

Signature of (Teacher)_____
Date_____
Signature of (Moderator)_____
Date

SCHOOL STAMP

3.6 Woodworking Tasks

3.6.1 Simulation 1: Fixing skirting to internal and external corners of walls

Materials needed:

- 5 x 200 x 50 x 20 mm skirting boards
- 2 x 300 x 100 mm chipboard or other material that may be used for a wall corner
- Nails

Instructions:

- Measure and cut two pieces of timber for the walls.
- Measure and cut two pieces of timber for the skirting of the internal corner.
- Measure and cut two pieces of timber for the skirting of the external corner.

Scribe the angles to be cut on the skirtings and cut using a tenon saw.

Facet sheet

Criteria	Marks	LM
Cut 2 x 300 x 100 mm chipboard (for walls) using a tenon saw. <i>(Correct length and squareness of cut)</i>	4	
Cut five pieces of timber (skirting boards 200 mm long using a crosscut saw. <i>(Correct length and squareness of cut)</i>	4	
Scribe, mark and cut mitre for two skirting boards for external corner.	5	
Scribe, mark and cut false mitre on two skirting boards for internal corner.	5	
Neatness of joints	2	
Total	20	

Completed simulation should be available for moderation.

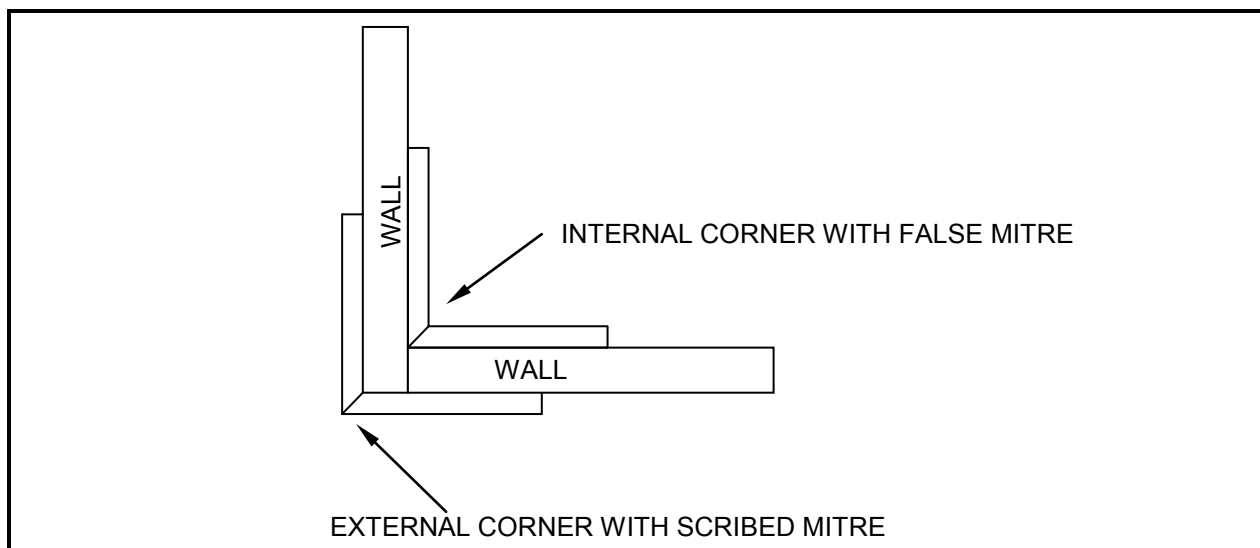


FIGURE 3.6.1

3.6.2 Simulation 2: Stopped mortice and tenon joint**Materials needed:**

- 2 x 200 x 110 x 38 mm

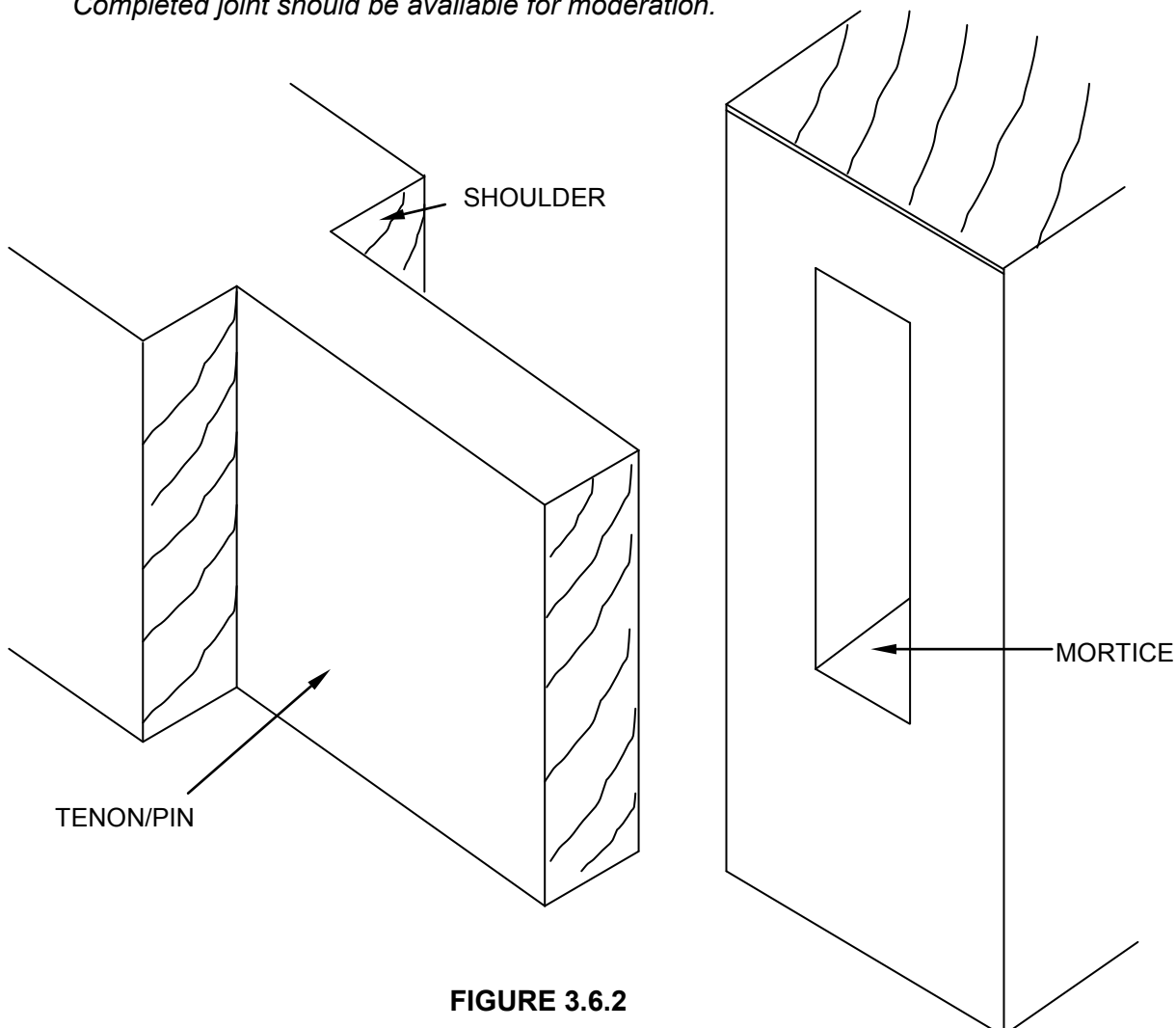
Instructions:

- Use a tenon saw and measure and cut two pieces of timber: one for the mortice and one for the tenon.
- Use a mortice gauge and measure and mark the mortice and tenon.
- Use a tenon saw and cut and remove waste to form shoulders for the tenon.
- Chisel out waste to form a mortice.
- Sandpaper all parts and assemble the two pieces.
- Check for squareness of the corners.

Facet sheet

Criteria	Marks	LM
Measure and cut two pieces of timber for the mortice and tenon with a tenon saw.	4	
Measure and mark the mortice and tenon with a mortice gauge.	2	
Cut and remove waste to form the tenon with a tenon saw.	4	
Chisel out waste to form a mortice.	4	
Sandpaper all parts and assemble the two pieces.	2	
Snug fit of joint	2	
Squareness of joint	2	
Total	20	

Completed joint should be available for moderation.

**FIGURE 3.6.2**

3.6.3 Model (Woodworking): Medicine cabinet

Instructions:

Learners should use discretion where details have been omitted.

Develop and compile a portfolio to show the following:

- Cover page
- Table of contents
- Declaration of authenticity
- Research:
 - Differentiate between the properties of fabricated board and solid timber
 - Sketches of possible joints that may be used to make a medicine cabinet
 - Different types of materials that may be used to make a medicine cabinet
 - A list of tools to make the medicine cabinet
- A cutting list of materials to make the medicine cabinet
- Drawings of the front, left, top and vertical cross-sectional views of the medicine cabinet in first-angle orthographic projection

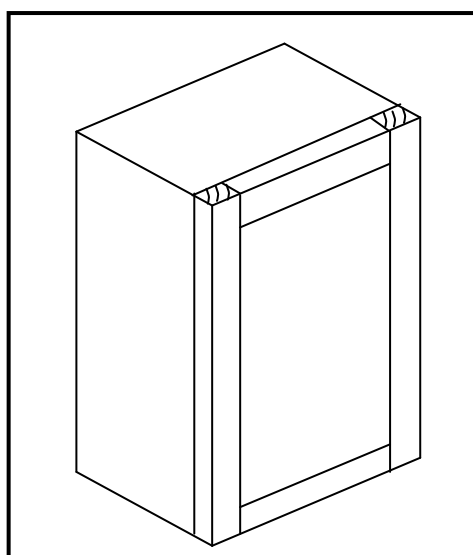


FIGURE 3.6.3

Use the marking memorandum for the drawings as a guide and draw the following:

- The front, top and side cross-sectional views of the medicine cabinet in first-angle orthographic projection to scale 1 : 2
- A vertical cross-section of the medicine cabinet. Use scale 1 : 2 and show ALL relevant details.

Specifications:

- Overall size of medicine cabinet: Height 450 mm, width 300 mm and depth (door included) 150 mm

Recommended material for the cabinet:

- 2/ 450 x 150 x 20 mm thick
- 2/ 300 x 150 x 20 mm (depending on choice of joint)
- 1/ 280 mm x 120 mm x 20 mm shelf
- 1/ 450 x 300 x 3 mm hardboard or plywood back (depending on method of attaching)
- 2/ 500 x 50 x 20 mm door stiles
- 2/ 350 x 50 x 20 mm door rails
- 1/ 450 x 300 x 3 mm plywood or hardboard door panel

Model:

Make the medicine cabinet according to the following instructions:

- Measure and cut the two pieces of timber for the sides of the carcass.
- Measure and cut the two pieces of timber for the top and bottom of the carcass.
- Measure, mark and develop the joints for the sides, top and bottom to form the carcass.
- Form a rebate onto all members of the carcass to receive the backing piece (other methods to fix back onto carcass may be used).
- Measure and develop the housing joint for the shelf on the sides of the carcass.
- Sandpaper all the members above.
- Assemble to form the carcass and check for squareness.
- Mark and cut the shelf to correct length and width.
- Sandpaper shelf and assemble onto carcass.
- Assemble back onto carcass.
- Measure and cut material for the door.
- Mark and form mortice and tenon joints for the door.
- Form rebate or grooves to house panel and assemble the door with the panel.
- Attach the door to the carcass with hinges.
- Sandpaper the model to remove all sharp corners.

3.7 **Assessment tools: Woodworking**3.7.1 **Rubric for assessment of the portfolio: Woodworking**

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Presentation	Cover page	Six of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Five of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Four of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Template used. Fewer than four of the following done neatly: <ul style="list-style-type: none"> Name of school Name of learner Name of teacher Grade Year Appropriate title Appropriate illustration 	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Table of contents	All the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Three of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Two of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	One of the following done correctly and neatly: <ul style="list-style-type: none"> Sections Subsections Page numbers Page numbers correspond with content 	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	Declaration of authenticity	Included in portfolio, signed by both the teacher and learner with school stamp.	Included in portfolio, signed by both the teacher and learner but not stamped.	Included in portfolio but only signed by the teacher.	Included in portfolio but not signed by both the teacher and learner.	Not included in portfolio.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
Content of portfolio	Evidence	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings, completed mark sheets for the portfolio and model and for both simulations.	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings, completed mark sheets for the portfolio and model.	All aspects as required are included in the portfolio: Research, working drawings, marking memorandum for drawings.	All aspects as required are included in the portfolio: Research, working drawings.	No evidence
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Tools and material to make the model	List of tools	MORE than ADQUATE hand and power tools are indicated correctly in an orderly manner extremely neat under different headings.	ADQUATE hand and power tools are indicated correctly in an orderly and neat manner under different headings.	LESS than ADQUATE hand and power tools are indicated satisfactorily in an orderly and neat manner under different headings.	EXTREMELY FEW hand and power tools are indicated in an untidy manner without different headings.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0
	List of materials	MORE than ADQUATE materials are indicated correctly in an orderly manner extremely neat under different headings.	ADQUATE materials are indicated correctly in an orderly and neat manner under different headings.	LESS than ADQUATE materials are indicated satisfactorily in an orderly and neat manner under different headings.	EXTREMELY FEW materials are indicated in an untidy manner without different headings.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Adherence to deadlines	Adherence to deadlines	Design portfolio submitted BEFORE OR ON due date.	Design portfolio submitted ONE TO THREE days late.	Design portfolio submitted FOUR TO SIX days late.	Design portfolio submitted later than SEVEN OR MORE days.	Not attempted
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

3.7.2 Marking memorandum for the working drawings (WOODWORKING)

Learner's name: _____ Grade: 11 _____

SCALE DRAWINGS	ASSESSMENT CRITERIA	MARK ALLOCATION			LEARNER MARK
		Good	Average	Poor/ Not done	
ORTHOGRAPHIC DRAWING OF MEDICINE CABINET	Front view in correct position	4–6	2–3	0–1	
	Top view in correct position	3–4	2	0–1	
	Side view in correct position	3–4	2	0–1	
	Hidden details of shelf on front and side views	3–4	2	0–1	
	Use correct line types (outside lines and hidden detail lines)	3–4	2	0–1	
	Dimensions	3	2	0–1	
	Title and scale	2	1	0	
	Application of scale	2–3	2	0–1	
SUBTOTAL		30			
VERTICAL CROSS-SECTION	Top drawn correctly	2	1	0	
	Bottom drawn correctly	2	1	0	
	Shelf drawn correctly	1	0	0	
	Top rail of door drawn correctly	1–2		0	
	Bottom rail of door drawn correctly	1–2	1	0	
	Stile of door drawn correctly	1–2	1	0	
	Glass or panel drawn correctly	1	0	0	
	Method of securing glass to top and bottom rails	1–2	1	0	
	Back of cabinet	1	0	0	
	Handle of door	1	0	0	
	Print title and scale	1–2	1	0	
	Application of scale	1–2	1	0	
SUBTOTAL		20			
TOTAL		50			
CONVERTED TO		10			

NOTE: The teacher should use his/her own drawing as a mask to mark these drawings.

3.7.3 Rubric for assessment of the final product/model Woodworking

NOTE: 'Not presented' or 'not attempted' will receive a 0 (zero) mark.

CRITERIA		Level 4 80–100%	Level 3 50–79%	Level 2 30–49%	Level 1 1–29%	Level 0 0%
Manufacturing competency for:	Marking	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Demonstrates a HIGH LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Demonstrates a SATISFACTORY LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to mark the different parts of the model correctly and accurately.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Cutting	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Demonstrates a HIGH LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Demonstrates a SATISFACTORY LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to cut the different parts of the model correctly and accurately.	Not attempted.
	Level x 3	Level 4	Level 3	Level 2	Level 1	Level 0
	Assembly/ Joining	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to assemble and join the different parts of the model correctly and accurately.	Demonstrates a HIGH LEVEL of skill and competence to join the different parts of the model correctly and accurately.	Demonstrates a SATISFACTORY LEVEL of skill and competence to assemble and join the different parts of the model correctly and accurately.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to assemble and join the different parts of the model correctly and accurately.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Finishing	Demonstrates an OUTSTANDINGLY HIGH LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Demonstrates a HIGH LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Demonstrates a SATISFACTORY LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Demonstrates an UNACCEPTABLE LEVEL of skill and competence to finish off the different parts of the model correctly using the appropriate finishing method.	Not attempted.
	Level x 2	Level 4	Level 3	Level 2	Level 1	Level 0
	Overall impression	The overall appearance and surface finishing is of an OUTSTANDINGLY HIGH quality with NO obvious defects.	The overall appearance and surface finishing is of a HIGH quality with VERY FEW obvious defects.	The overall appearance and surface finishing is of a SATISFACTORY quality with EASILY observed defects.	The overall appearance and surface finishing is of a POOR quality with MANY easily observed defects.	Not attempted.
	Level x 1	Level 4	Level 3	Level 2	Level 1	Level 0

3.7.4 COMPOSITE MARK SHEET: WOODWORKING

No	NAME OF LEARNER	SIMULATIONS				PORTFOLIO						SCALE DRAWINGS					MODEL					TOTAL				
		SIMULATION 1	SIMULATION 2	TOTAL: 40	MODERATED MARK	PRESENTATION	CONTENT OF PORTFOLIO	LIST OF TOOLS AND MATERIALS	ADHERENCE TO DEADLINES	TOTAL: 28	TOTAL: 10	MODERATED MARK	DRAWING 1	DRAWING 2	TOTAL: 50	TOTAL: 10	MODERATED MARK	MARKING	CUTTING	ASSEMBLY/JOINING	FINISHING	OVERALL IMPRESSION	TOTAL: 40	MODERATED MARK	GRAND TOTAL: 100 (S1 + S2 +P+WD+M)	MODERATED MARK
		20	20	40	40	12	4	8	4	28	10	10	30	20	50	10	10	8	12	8	8	4	40	40	100	100
1																										
2																										
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14																										
TOTAL																										
AVERAGE																										

Signature of (Teacher)

Date

Signature of (Moderator)

Date

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SECTION 4**4. OTHER RELEVANT INFORMATION****4.1 Absence/Non-submission of task (What are the consequences?)**

The absence of a practical assessment task will be dealt with in accordance with the regulations as stipulated in the *National Policy on Protocol for Assessment Grades R–12*, page 6, chapter 3, paragraphs 7 and 8.

The *National Protocol for Assessment Grades R–12*, chapter 3, paragraph 8, subsection (4) clearly states that the absence of a practical assessment task mark will result in the candidate registered for that particular subject, receiving an incomplete result.

4.2 Requirements for presentation

The following should be presented by the candidate for assessment and moderation:

- A complete design portfolio
- All scale drawings
- A completed model
- The learner's name and class must be clearly indicated on all components of the PAT

The following document should be presented by the teacher for moderation:

- A composite mark sheet (one composite mark sheet comprising all learners' names and marks for all aspects that were assessed)

4.3 Time frames**Recommended time frames for the completion of the PAT:****Term 1: Simulation 1: Portfolio for model:**

- Cover page
- Table of contents
- Research
- List of tools and equipment needed for the model
- Declaration of authenticity

Term 2: Simulation 2: Working drawings for model:

- All drawings as indicated on the marking memorandum
- **NOTE:** Use the criteria on the marking memorandum for drawings as a guide when preparing your drawings.

Product/Model:

Manufacturing of parts

Term 3: Product/Model: Manufacturing, final assembling of parts and finishing off of the model

4.4 Declaration of authenticity

NAME OF THE SCHOOL:

NAME OF LEARNER:.....

NAME OF TEACHER:

**SCHOOL STAMP**

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

SIGNATURE OF LEARNER_____
DATE (SUBMITTED)

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

SIGNATURE OF TEACHER_____
DATE (ASSESSED)

SECTION 5**5. CONCLUSION**

On completion of the practical assessment task learners 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 learner's life skills and provides opportunities for learners to engage in their own learning.