



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

ENGINEERING GRAPHICS AND DESIGN

GUIDELINES FOR PRACTICAL ASSESSMENT TASKS

2017

These guidelines consist of 27 pages.

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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 A (TEACHER GUIDELINES)

2. THE STRUCTURE OF THE PRACTICAL ASSESSMENT TASK (PAT) FOR EGD

As the Engineering Graphics and Design (EGD) **PAT** is a **compulsory national formal assessment task** that contributes 25% (i.e. 100 marks) towards a learner's final NSC mark, it is essentially the **third NSC examination paper** of EGD. All the **presentation requirements must therefore be adhered to and**, with the exception of the required research, **completed at school**, under the supervision of the EGD teacher. **Each learner must complete the PAT individually** and **ALL** the presentations must be **his/her own original work**.

The primary purpose of the EGD PAT is to assess four subjective content and concept topics which are not assessed in the examination papers. These are:

- The design process
- The application of drawing knowledge and drawing skills to the design process
- CAD management and drawings
- The quality and neatness of free-hand, instrument and CAD drawings

The EGD PAT is therefore designed to develop a learner's ability to integrate and apply knowledge and to demonstrate acquired levels of skills and competency. With the inclusion of the PAT into EGD, the learner is given an opportunity to apply

acquired knowledge, skills and values in a creative way through the design process. The learner is given an opportunity to complete the PAT in an environment which is more conducive to the creative processes. This environment should therefore provide the learner with easier access to, and a wider variety of, resource material than would be available in a formal examination.

The various components of the EGD PAT gives the learner an opportunity to demonstrate the level of drawing skill that has been attained in all the appropriate drawing methods through the presentation of the required drawings. Each EGD PAT consists of TWO parts:

- **Part A:** The design process
- **Part B:** Required working and pictorial drawings

Part A of both PATs requires that the learner demonstrates a clear understanding of, and is able to apply, the design process. As part of the design process, the learner must be able to do the following:

- Identify the problem(s) and formulate a design brief with specifications and constraints
- Conduct and use relevant external research in an appropriate way
- Generate a number of own ideas/concepts/solutions analytically and graphically through comprehensive freehand drawings
- Select a final solution(s) that demonstrates a clear understanding of the design brief
- Present the final solution(s) as working drawings and pictorial drawings
- Provide clear evidence of continuous self-evaluation during the development of the PAT

Part B of both PATs requires that the learner demonstrates and provides evidence of a high level of knowledge and understanding of the concepts and content of Engineering Graphics and Design through the presentation of orthographic drawings and pictorial drawings.

Part A and Part B of both PATs also give the learner the opportunity to demonstrate that a high level of competency and skill has been attained in the following required EGD drawing methods:

- Freehand drawings prepared in pencil
- Instrument drawings prepared in pencil
- Using a CAD (Computer-aided Drawing/Design) system

TWO practical assessment tasks (PATs) are included in this document:

- PAT 1 is a design task in the context of civil technology
- PAT 2 is a design task in the context of mechanical technology

Each learner must, with the guidance of the teacher, **select ONE** of the PATs contained in this document.

Elements that make up the PAT mark for Engineering Graphics and Design

ELEMENTS OF THE MARK FOR THE PRACTICAL ASSESSMENT TASK	
ELEMENT	MARK
The design process	25
The correctness of the working and pictorial drawings	50
The drawing methods (freehand, instrument and CAD)	25
TOTAL	100

3. ADMINISTRATION OF THE PAT

At the beginning of the academic year the EGD teacher must ensure that **every Grade 12 learner receives a copy of the entire SECTION B** of the PAT document, i.e. **ALL the pages from page 8 to page 27**.

The completed phases of ALL the PATs must be submitted in time for summative assessment to be done before the commencement of phase moderation in the second and third terms and provincial moderation in the third term. The PATs must therefore be **completed in the following phases during the first three terms**:

- **Phase 1:** Design process (completed by the end of the **1st term**)
- **Phase 2:** Presentation drawings (completed by the end of the **2nd term**)
- **Phase 3:** Completion of portfolio (**before** the commencement of **provincial/ final moderation** in the **3rd term** or at the latest **before** the commencement of the **preparatory examinations**)

Although the phases could be done either CYCLICALLY or in BLOCK TIMES, as indicated in the EGD CAPS, it is recommended that ONE ENTIRE DAY per term, e.g. as an extra paper during the June examinations, be allocated for each phase.

The **teaching/period time** that may be allocated **for the completion of all three phases** of the PAT is **12 hours to a maximum of 16 hours**. Additional non-teaching-/non-period time may, however, also be allocated for the completion of the PAT at the school. However, the **total maximum time** for the completion of all the phases of the PAT should **not exceed 20 hours**.

To ensure that the PAT is completed within the stipulated time it is essential that the teacher draw up a **PAT work schedule/pacesetter/management plan**, with target dates that are in line with the Annual Teaching Plan of the EGD CAPS and the prescribed completion of the phases of the 2017 EGD PAT, for the learners at the beginning of the year. This will help learners to assess their own progress and teachers to set up intervention programmes.

NOTE:

- **ALL the presentation requirements** of the selected PAT **must be adhered to and**, with the exception of the required research, **completed at school under the guidance and supervision of the EGD teacher**, who must observe the learners' progress at all times.
Not adhering to this instruction will be deemed to be an examination irregularity.
- It is the **teacher's responsibility** to ensure that **each learner's PAT** is of an **appropriate higher-order Grade 12 complexity**.

4. ASSESSMENT AND MODERATION OF THE PAT

4.1 Assessment

The assessment of the PAT must be done according to the included relevant Assessment Criteria and Checklist.

Frequent developmental feedback is needed to guide and give support to each learner and to ensure that each learner is on the right track. Both formal and informal assessment should therefore be conducted throughout the development of the PAT. Informal assessment can be conducted by the learner, a peer or by the teacher. **However, the teacher must conduct ALL the formal assessment and record the results on the official mark sheets himself/herself. Each learner's marks must also be indicated on the official 2017 summative assessment sheet in the learner's PAT file/portfolio.**

The completed PAT must be submitted in time for final formal assessment to be done before the commencement of provincial/final moderation or, at the latest, before the preparatory examinations in the **3rd term. Once the PAT has been formally assessed the teacher must retain the PAT for the purpose of external moderation.** All the PATs must also be retained at the school for the period of time, as prescribed by the provincial departments of education.

Clarification of level descriptive and the verification of marks:

- **A 1-mark level descriptive:**
 - **1 mark** is allocated to **elementary/basic** presentation requirements and/or drawing features that should be **done correctly**.
 - The **1 mark** is therefore not for **done** or **not done**, but for **done correctly**, i.e. 1 for right or 0 (zero) for wrong, even if done, e.g. if hatching on the floor plan is done, but not done correctly.
- **A 2-mark level descriptive:**
 - A **0 (zero)** must be allocated if **not done** or if **little/no evidence of knowledge** of the requirement and/or drawing feature(s) is shown and/or **very poor**, e.g. the design.
 - **1 mark** must be allocated if **done** and if **some evidence of knowledge** is shown, but the requirement(s) and/or drawing feature(s) is/are **not completely correct** and/or **complete** and/or **compliant** and/or **achieved** and/or **clear** and/or **just average**.
 - **2 marks** may only be allocated if **ALL evidence of knowledge** is shown and the requirement(s) and/or drawing feature(s) is/are **completely (at least 90%+) correct** and/or **complete** and/or **compliant** and/or **achieved** and/or **clear** and/or **very good**.
- **A 7-mark level descriptive:**

The 7-mark descriptive of the simplified rubric on page 45 of the EGD CAPS must be used. This implies that a **7 can only be allocated** if the presentation requirement is **completely (100%) correct/compliant**.
- **Verification of ALL final marks out of 10:**

Each final mark out of 10 for each assessment criteria **must be verified according to the simplified 10-mark rubric** on page 25 of this document.

This implies that a **10 can only be allocated** if the presentation requirement is **completely (100%) correct/compliant**.

NOTE:

The concept of '**benchmarking**', i.e. the identification and mark allocation of the best example(s) for each assessment criterion, should be applied when the PATs are being assessed.

4.2 Moderation

The moderation of the PAT must be done according to the included relevant Assessment Criteria and Checklists.

Monitoring and/or moderation of the PAT can take place at any time during the development of the PAT. ALL completed presentation requirements of the PAT must therefore always be available at the school. However, in order to make provision for intervention programmes, **the following phase moderation must be done during the second and third terms:**

- **Phase 1:** Design process (beginning of the 2nd term before the commencement of phase 2 or the June examinations)
- **Phase 2:** Presentation drawings (beginning of the 3rd term before the commencement of phase 3)

During the moderation process the moderator will randomly select the PAT files/portfolios that have to be moderated. To assist the process of final provincial moderation the teacher must supply the moderator with a completed mark sheet(s) and a merit list(s).

During the moderation process learners may be called upon to explain the functions and principles of operating a CAD system and to demonstrate drawing skills through performing capability tasks.

4.3 Declaration of authenticity

Prior to the final submission of the PAT for formative assessment ALL the learners and the teacher must complete the declaration of authenticity, as set out on the final page of this document.

NOTE:

Only the official 2017 SUMMATIVE ASSESSMENT SHEET (page 26) and the completed DECLARATION OF AUTHENTICITY (page 27) of this document must be included in the front of the learner's completed PAT file/portfolio.

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 learners' life skills and provides opportunities for learners to engage in their own learning.

SECTION B (LEARNER TASKS)

General information and instructions:

- The EGD PAT is a **compulsory national formal assessment task** that contributes 100 marks towards your final National Senior Certificate (NSC) mark.
- This **document contains TWO PATs**, i.e. a civil design project (PAT 1) and a mechanical design project (PAT 2). **You, the learner**, with the guidance of your EGD teacher, **must select ONE** of the PATs contained in this document.
- ALL the **presentation requirements** of the selected PAT **must be adhered to** and, with the exception of the required research, **completed at school**, under the guidance and supervision of your EGD teacher.
- The PAT must be **completed individually** and **ALL the presentations**, including the front page and index, must be **your own original work**.
- The PAT must be **completed in phases and within the given time frame** of your teacher's PAT work schedule/pace setter/management plan.
- ALL **freehand drawings** and **instrument drawings** must be **prepared in pencil**.
- The PAT must be of an appropriate **higher-order Grade 12 complexity**.
- The PAT will be **assessed and moderated according to** the relevant **Assessment Criteria and Checklists** included in this document.
- Untidy and messy work, as well as the late submission of presentation requirements, will be penalised.

6. PRACTICAL ASSESSMENT TASK 1 (PAT 1)

A civil design project

Scenario

In a small rural town in the South African Midlands, the Community Business Forum (CBF) has been looking for new ways to generate funds in order to maintain the aging infrastructure of their town.

The CBF was approached by a few local entrepreneurs who want to rebuild the 50 km stretch of disused railway track that runs past the town and meanders through the scenic countryside surrounding the town. The proposal suggests that by so doing they would attract tourists to their town and the surrounding countryside, and so create the prospect of jobs and encourage further development.

The entrepreneurs have already secured four standard length passenger carriages, each measuring 21 m in length, which will be pulled by an old steam locomotive.

Their plan is dependent on building a new railway station building as well as a separate new railway platform for the 1 065 mm gauge railway track.

The CBF accepted the idea and has agreed to carry the cost of building the new railway station platform as well as to invest R1,5 million into the construction of a new railway station building. The municipality has also set aside a plot of land (PLOT 256) alongside the railway track for this project.

With your appointment as the designer of the railway station project, you were informed that the railway station building must be a single-story structure that must have sandstone cladding on the outside and a corrugated iron roof of Dutch gabled design, so that it will fit in with many of the other buildings in the town. The railway station building must contain a curio shop, a small coffee shop with a seating and serving area and a kitchenette, a ticket and tourism information office and male and female toilet facilities. The male toilet facility must have two urinals, a toilet and a hand wash basin and the female toilet facility must have three toilets and a hand wash basin.

The project also requires the design of a new railway platform, that must run parallel to the single gauge railway track and has to be long enough to accommodate all four passenger carriages, separate from the new railway station building, a parking area with 100 demarcated parking bays, a demarcated loading zone for deliveries and an entrance and exit point off Aloe Street. You were also informed that the acacia tree on the site may not be removed.

The developers have informed you that the building cost for the railway station building is currently R5 750 m².

PHASE 1: Presentation requirements

1. **Identify the primary and secondary problem(s)** and formulate your own **design brief** on the given scenario.
Include the following as part of the design brief:
 - An **extended** and **comprehensive** list of **specifications** for each requirement of the project
 - A list of at least **FIVE constraints** that are relevant to the task
 - A list of **ALL the presentation requirements of the PAT** together with a **management plan** for the development of the PAT
2. **Conduct** your own **research** on:
 - Designs of sand stone building and Dutch gable roofs
 - Designs of small railway platforms for a 1 065 mm gauge railway track
 - The requirements and layouts of the seating and serving area as well as the kitchenette for a small coffee shop
 - Sizes of parking bays, the layout designs for parking lots and entrance and exit points for motor vehicles

NOTE:

- The research must be **relevant** and **usable**.
- Evidence of **ALL the relevant resource material used** must be **presented as proof** that the required research had been done.
- There must be clear evidence that the **research was used**.
- Include a list of **ALL references (bibliography)**.

3. **Generate THREE neat freehand drawings** of the **layout** of **THREE possible design solutions** for the **new railway station building**. **Also show a 10 m section of the new platform** in relation to the building on each possible design solution. Each freehand drawing must show all **primary dimensions** and **relevant labels** as well as the **correct presentation** of **ALL building features, permanent fixtures** and the **roof line**. The electrical fittings and waste-water disposal systems (sewerage) are not required for the freehand drawings. The **calculation and indication of the area** of each possible solution should also be clearly shown.

NOTE:

- **ALL the features** should be drawn **proportionally the same size**. **Grid/Graph paper** should therefore be used.
- These drawings must provide clear evidence that a high level of competency has been attained in **freehand drawings** as one of the required **EGD drawing methods**.
- All the drawings must comply with the *SANS 10143 Guidelines*.

4. **Select the best solution**, which demonstrates an in-depth understanding of the design brief within the context of the specifications and constraints. **Create a table** and **use at least TEN criteria** to **evaluate and compare** the possible design solutions of the **THREE freehand drawings**. Include a **comprehensive summary** of the reasons for the solution selected.

PHASE 2: Presentation requirements

5. **Present the selected solution** as a set of **working drawings** and a **pictorial drawing** (5.1, 5.2 and 5.3) that adhere to the following:

- All the **working drawings** must be presented on appropriately sized drawing sheets, correctly set up with borders. However, **only the first working drawing** (5.1) has to be set up with a **complete civil title panel**.
- The drawings must provide clear evidence that a high level of competency had been attained in the following **TWO** required **EGD drawing methods**:
 - Instrument drawings
 - CAD (Computer-aided Drawing/Design)

NOTE:

- **ONE entire working drawing** (i.e. 5.1 or 5.2) must be prepared as an **instrument drawing** and the **other** using a **CAD system**.
- The **perspective drawing** (5.3) may be prepared **either** as an instrument drawing **or** by using a CAD system.
- **Schools that do not have CAD facilities must prepare all the required drawings** (5.1, 5.2 and 5.3) **as instrument drawings**.
- The title panels and ALL the drawings must comply with the *SANS 10143 Guidelines*.

5.1 Draw a detailed **layout drawing** of the **selected proposed railway station building, clearly showing all the features**. The drawing must show a **minimum** of **FOUR** orthographic views drawn to a suitable scale(s).

The views must include the following:

5.1.1 The **floor plan** of the **railway station building**

5.1.2 A **sectional elevation**, which must include a **door** and a **window**, of the **railway station building** as well as a **sectional elevation** of the **railway platform**

5.1.3 **TWO elevations** of the **railway station building**, showing the **front view** and a **side view**

The following should be included on all relevant views:

- ALL sanitary, kitchen and other permanent fixtures
- A detailed layout of the seating and serving area of the coffee shop
- ALL electrical fittings and the wiring detail
- Waste-water disposal systems (sewerage)
- Titles, labels and notes
- Scale(s)
- Dimensions
- Cutting plane(s)
- All hatching detail
- North point

5.2 Draw a detailed **site plan** to a suitable scale.

The following must be included:

- ALL relevant site detail and features, e.g. boundary lines, building lines, natural features, etc.
- The railway track
- The new railway station building and new railway platform
- A demarcated loading zone for deliveries
- The parking lot layout for 100 motor vehicles
- A 4 m wide motor vehicle entry and exit from Aloe Street
- ALL services, sewerage and drainage connections
- Electrical supply
- Title, labels and notes
- Scale
- Dimensions and corner heights
- North point

5.3 Draw a detailed **two-point perspective drawing** of the **new railway station building**, as seen **when standing on** the new **railway platform**, i.e. a human eye view perspective from the new railway platform.

Evidence of the following must be included with the drawing:

- All views/drawings used to produce the drawing
- The construction/method used to produce the drawing

NOTE: A copy of the perspective drawing, which may contain artistic features, could be used as a picture for the cover page of the PAT file/portfolio.

PHASE 3: Presentation requirements

Create a PAT file/portfolio containing:

- A complete **cover page**
- An **index**
- The **2017 SUMMATIVE ASSESSMENT SHEET** (see page 26)
- The completed **DECLARATION OF AUTHENTICITY** (see page 27)

Present the following phase 1 and phase 2 presentation requirements in the PAT file/portfolio after the DECLARATION OF AUTHENTICITY:

1. ALL the design brief requirements
2. Evidence of ALL the relevant resource material used for the **required research**
3. The **THREE freehand drawings** of the possible design solutions
4. ALL the evidence of the **selection** of the **best solutions**
5. ALL the required **working drawings** (5.1 and 5.2) and the **pictorial drawing** (5.3)
6. Using the **included checklist**, clear evidence of **continuous self-evaluation** of the **entire process** and of the **meeting** of all the **deadlines** during the development of the PAT

NOTE:

Include the following on each page of each presentation requirement:

- Clear **numbering** according to the numbers of the presentation requirements
- **Your** (the learner's) **name**
- The **date** of **completion** and **submission**

Assessment criteria and checklist for the 2017 EGD Civil PAT

- The **SUMMATIVE ASSESSMENT SHEET** on page 26 of the EGD PAT document must be used to indicate the final totals out of 10 for each assessment criterion.
- The **contribution** of each aspect of the PAT is as follows:
 - The **design process**, i.e. presentation requirements numbers 1, 2, 3, 4, 6 and 7, will contribute **25 marks** to the final PAT mark out of 100
 - The **working drawings and a pictorial drawing**, i.e. presentation requirement number 5, will contribute **50 marks** to the final PAT mark out of 100
 - **Drawing methods, drawing skills** and **presentation**, which should be assessed according to ANNEXURE A, will contribute **25 marks** to the final PAT mark out of 100

ASSESSMENT CRITERIA AND CHECKLIST FOR THE 2017 EGD CIVIL PAT									
1-mark level descriptive		0	No evidence/not done or not correct/complete/compliant/achieved/very poor				Checked	Suggested mark allocation	Own marks/ notes/ comments
		1	All evidence shown/correct/complete/compliant/achieved/clear						
2-mark level descriptive		0	No evidence/not done/very poor						
		1	Evidence shown but not correct/complete/compliant/achieved/clear/average						
		2	All evidence shown/correct/complete/compliant/achieved/clear/very good						
1. Design Brief									
	1.1	Identifying the primary problem and secondary problems in own words						2	
	1.2	Formulating of a design brief in own words						2	
	1.3	List of the specifications (extended and comprehensive and not just the given)						2	
	1.4	List of at least FIVE constraints that are relevant to the project						2	
	1.5	List of the PAT requirements together with a management plan						2	
TOTAL							10		
2. Research (This should be restricted to a maximum of THREE A4 or TWO A3 pages per research topic)									
Relevant and usable research on:	2.1	Designs of sand stone building and Dutch gable roofs						2	
	2.2	Designs of small railway platforms for a 1065 mm gauge railway track						2	
	2.3	The requirements and layouts of a small coffee shop						2	
	2.4	Sizes of parking bays and the layout designs for parking lots						2	
Evidence that the research has been used								1	
Bibliography/List of sources included								1	
TOTAL							10		
3. Freehand drawings of THREE possible design solutions									
Assess each freehand solution as follows:	ALL the required building features and fixtures included		2	Final mark for each solution					
	Correct presentation of ALL building features and fixtures		2	Solution 1		10			
	Railway platform correctly indicated in relation to building		1						
	The relative scale/size of all features/fixtures to each other		2	Solution 2		10			
	Labels and notes (2) + Dimensions (2) (2 + 2 = 4)		4						
	Area correctly calculated and clearly presented		2	Solution 3		10			
	Design: Effective utilisation of space and functionality		2						
	Subtotal = 15 ÷ 1,5 = TOTAL		15						
(1 = 1; 2 = 1; 3 = 2; 4 = 3; 5 = 3; 6 = 4; 7 = 5; 8 = 5; 9 = 6; 10 = 7; 11 = 7; 12 = 8; 13 = 9; 14 = 9; 15 = 10)									
4. Selecting the best freehand solution (This must be a separate presentation)									
	Table created for an easily understandable presentation of the selection process						2		
	Using at least TEN requirements and specifications as criteria for the evaluation						2		
	Relevant and comprehensive reasons (evaluating and comparing)						2		
	A rating scale to score each solution, i.e. a mark allocation of each criterion						2		
	A comprehensive summary of the reasons for the selected solution						2		
TOTAL							10		
5. Working drawings and a pictorial drawing of selected solution									
Drawing sheet preparation									
	Appropriately sized drawing sheets						1		
	Borders on all the drawing sheets of working drawings						2		
	Appropriate and complete civil title panel on the first working drawing (5.1)						7		
NOTE: Use the 7-mark simplified rubric on page 45 of the EGD CAPS.							TOTAL	10	
5.1 Detailed layout drawings of the selected proposed solution									
5.1.1 Floor plan									
	Correlation with selected freehand solution and the selection process summary						2		
	ALL internal and external walls and the roofline						2		
	ALL doors and windows						2		
	ALL sanitary, kitchen and other permanent fixtures						2		
	ALL electrical fittings and the wiring detail						2		
	Waste-water disposal systems (sewerage)						2		
	Titles, labels and notes						2		
	Suitable scale selected and indicated correctly						1		
	Dimensions						2		
	Cutting plane (1) + ALL hatching detail (1) + North point (1) (1 + 1 + 1 = 3)						3		
Subtotal = 20 ÷ 2 = TOTAL							10		

ASSESSMENT CRITERIA AND CHECKLIST FOR THE 2017 EGD CIVIL PAT				
5.1.2	Sectional elevation of the railway building			
	Foundation and walls with door(s) and window(s) included		2	
	Roof		2	
	Railway platform		2	
	Labels and notes		2	
	Suitable scale selected and indicated correctly		1	
	Dimensions		2	
	Section correct according to the indicated cutting plane(s)		2	
	ALL hatching detail		2	
Subtotal = 15 ÷ 1,5 = TOTAL			10	
(1 = 1; 2 = 1; 3 = 2; 4 = 3; 5 = 3; 6 = 4; 7 = 5; 8 = 5; 9 = 6; 10 = 7; 11 = 7; 12 = 8; 13 = 9; 14 = 9; 15 = 10)				
5.1.3	TWO elevations, showing the front view and a side view			
	Relevant views, which include sewerage, selected/shown		1	
	Door and window detail		2	
	Walls and ALL other external features		2	
	Roof detail including rainwater items		2	
	Waste-water disposal system (sewerage)		2	
	Drawn to same scale as the floor plan		1	
TOTAL			10	
5.2	Detailed site plan			
	ALL relevant site detail/features, e.g. railway track, building lines, natural features etc.		2	
	The new railway platform, station building and parking lot		2	
	ALL services, sewerage and drainage connections as well as electrical supply		2	
	Suitable scale selected and indicated correctly		1	
	Dimensions, reference dimension, corner heights, labels and notes		2	
	North point		1	
TOTAL			10	
5.3	Detailed two-point perspective drawing of the railway station building			
	Evidence of views/drawings and construction/method used for the drawing		1	
	Correct orientation of views and the correct HL high, i.e. as seen from the railway platform		2	
	2-point perspective drawing/answer (Use 7-mark rubric on page 45 of the EGD CAPS)		7	
TOTAL			10	
6.	Continuous self-evaluation and the meeting of deadlines			
	Checklist(s) of continuous self-evaluation of the entire process (mark out of 10 ÷ 2)		5	
	The meeting of ALL the deadlines during the development (mark out of 10 ÷ 2)		5	
TOTAL			10	
7.	Presentation of the complete PAT file/portfolio			
	Cover page		1	
	Index		1	
	Summative assessment sheet and declaration		1	
	Correct sequencing of ALL presentation requirements		1	
	Name and numbering on ALL the presentation requirements		1	
	General impression of file/portfolio, e.g. binding, appearance etc. (mark out of 10 ÷ 2)		5	
TOTAL			10	
Assessment of drawing methods, drawing skills and presentation				
a	Freehand drawings			
	Freehand drawing methods and skills (See ANNEXURE A on page 23)		10	
	Neatness, line work/line quality and printing (See ANNEXURE A on page 23)		10	
b	Instrument drawings			
	Use of drawing instruments, drawing methods and skills (See ANNEXURE A on page 23)		10	
	Neatness, line work/line quality and printing (See ANNEXURE A on page 23)		10	
c	CAD drawings			
	Competence displayed in using a CAD system/program (See ANNEXURE A on page 23)		10	
	Layout and correctness of the drawings presentation (See ANNEXURE A on page 23)		10	

7. PRACTICAL ASSESSMENT TASK 2 (PAT 2)

A mechanical design project

Scenario

You are employed as a draughtsperson by a drafting firm that specialises in providing design services on **DRIVE and CONTROL SYSTEMS for BICYCLES and SMALL-CAPACITY MOTORCYCLES/SCOOTERS**.

You are tasked with investigating and analysing the design features of an existing **drive or control system for a bicycle or a motorcycle/scooter with an engine capacity of 125 cc or less**, and to come up with new or improved ideas. The improvement(s) to the drive or control system could be one or more of the following:

- To improve efficiency
- To strengthen its current design
- To simplify its application

The PAT requires the following stages:

- The first stage involves selecting/finding a suitable drive or control system on a bicycle or motorcycles/scooters, which must include mechanical parts/components and movement as part of its operation/function.

NOTE: The selected drive or control system should be one that is on a bicycle or motorcycle/scooter **that is already available to you**. **Evidence** of the selected bicycle or motorcycle/scooter must be **provided** in the form of **detailed photographs**.

- The **second stage** involves the **dismantling** of the selected drive or control system so that **all the mechanisms and parts/components** can be **revealed, investigated and measured**. A **comprehensive set of detailed photographs** of the selected drive or control system **before dismantling and of each individual part/component after the dismantling, must be taken**.
- The **third stage** involves the identification of **ONE** of the **main parts/components** or a **combination of parts/components** of the selected drive or control system which could be **improved, modified or redesigned** in some way. This will necessitate the application of the **design process**, as stipulated by the presentation requirements for this PAT.

Requirements and specifications of the selected drive or control system:

- The **drive or control system** must be from a **bicycle** or of a **motorcycle/scooter with an engine capacity of 125 cc or less**.
- The drive or control system must be an **assembly** consisting of a **minimum of FOUR different mechanical parts/components**, e.g. part of or the entire chain drive system, part of or the entire gearbox and drive shaft system, the brake system, the gear change system etc., that **includes mechanical movement** as part of its operation/function.
- The **drive or control system**, or a **comprehensive set of detailed photographs thereof** if it is still in use on the bicycle or motorcycle/shooter, **must be submitted as part of the PAT presentation**.

- Your **teacher must approve** the drive or control in order to ensure that it **meets all the requirements** and that a PAT of an **appropriate higher-order Grade 12 complexity** can be produced.

PHASE 1: Presentation requirements

1. **Identify the primary and secondary problem(s)** and formulate a **comprehensive design brief**.

Include the following as part of the design brief:

- Your own **comprehensive** list of **specifications** for the **selected drive or control system**
- Your own list of **constraints** for the **selected drive or control system**
- A list of ALL the **presentation requirements of the PAT** together with a **management plan** for the development of the PAT

2. Conduct your own **research** on the following:

- All the **materials** used for **ALL the parts/components** of the selected drive or control system
- **Specific design features** and/or **function (purpose)** of each individual part/component of the selected drive or control system
- In-depth research of the design, components/parts and mechanical movement (working) of **at least TWO other models or makes of drive or control systems** that are **similar** to the drive or control system that you have selected.

NOTE:

- The research must be **relevant** and **usable**.
- Evidence of **ALL the research conducted** and the **relevant resource material used** must be **presented as proof** that the required research had been done.
The **first two** research requirements will be primarily **hands-on investigative research**, which can be presented by using the **comprehensive set of detailed photographs** taken during the second stage, with labels and/or notes indicating the material and the function of each part/component.
The **evidence** of the **other TWO drive or control systems** may be in the form of a **comprehensive set of pictures and/or photographs together with explanatory labels and notes** of each.
- There must be clear evidence that the **research was used**.
- Include a list of ALL **references (sources)**.

3. **Generate THREE sets** of **neat detailed self-explanatory freehand drawings** that will clearly show **THREE different possible improvements, modifications or re-designs** to the identified **main part(s)/component(s)** of the **selected** drive or control system.

Each set of freehand drawings must consist of **relevant self-explanatory orthographic views** and an **isometric drawing(s)** that must show **dimensions, labels and explanatory notes**, as well as the **correct presentation** of ALL the **features**. Include a **short narrative explanation** of the possible improvement, modification or re-design.

NOTE:

- ALL the features should be drawn **proportionally the same size**. **Grid/Graph paper** should therefore be used.
 - These drawings must provide clear evidence that a high level of competency has been attained in **freehand drawings** as one of the required **EGD drawing methods**.
 - All the drawings must comply with the *SANS 10111 Guidelines*.
4. **Select the best improvement/modification/re-design** which demonstrates an in-depth understanding of the design brief within the context of the requirements of the task and the specifications and constraints. **Create a table and use at least EIGHT criteria to evaluate and compare** the possible design solutions of the **THREE freehand drawings**.
Include a **comprehensive summary** of the reasons for the solution selected

PHASE 2: Presentation requirements

5. **Present the selected drive or control system and the selected improvement/modification/re-design** as a set of **working drawings** and a **pictorial drawing** (5.1, 5.2 and 5.3) that adhere to the following:
- All the drawings must be presented on appropriately sized drawing sheets, correctly set up with borders. Only the **first working drawing** (5.1) has to be set up with an **appropriate and complete mechanical title block**.
 - The drawings must provide clear evidence that a high level of competency had been attained in the following **TWO** required **EGD drawing methods**:
 - Instrument drawings
 - CAD (Computer-aided Drawing/Design)

NOTE:

- **ONE working drawing** (i.e. 5.1 or 5.2) must be prepared as an **instrument drawing** and the **other** using a **CAD system**.
 - The **isometric drawing** (5.3) may be prepared **either** as an instrument drawing **or** by using a CAD system.
 - **Schools that do not have CAD facilities must prepare all the required drawings** (5.1, 5.2 and 5.3) **as instrument drawings**.
- All drawings must comply with the *SANS (SABS) 10111 Guidelines*.
- 5.1 Draw an **assembly drawing** of the **selected drive or control system** clearly showing all the parts **before** any improvements, modifications or re-designs have been effected. The drawing must show a **minimum of FOUR appropriate** orthographic views drawn to a suitable scale.

The views must include:

- 5.1.1 The **front view**
- 5.1.2 A **second primary view**
- 5.1.3 Any **TWO** other **secondary views**

NOTE: TWO of the views must be sectioned or contain types of section.

The following must be included:

- Scale
- Dimensions
- Labels and notes
- Cutting planes
- ALL hatching detail

- 5.2 Draw a **detailed drawing** of the **identified main part(s)/component(s)** of the **selected drive or control system**, clearly showing the **selected improvement/modification/re-design**. The drawing must show a **minimum of THREE appropriate** orthographic views drawn to a suitable scale.

The views must include:

5.2.1 The **front view**

5.2.2 Any **TWO** other **views**

NOTE: ONE of the **views must be sectioned** or contain a **type of section**.

The following must be included:

- A comprehensive list of explanatory labels and notes
- Relevant welding and/or machining symbols
- Scale
- Dimensions
- Cutting plane(s)
- ALL hatching detail

- 5.3 Draw a detailed **isometric drawing** of the **selected drive or control system** or of the improved, modified or re-designed main part(s)/component(s) of the drive or control system, to a suitable scale.

Evidence of the following must be shown:

- All views/drawings used to produce the drawing
- The constructions/methods used to produce the drawing

NOTE:

- Include relevant labels and notes.
- A copy of the isometric drawing, which may contain artistic features, should be used as the picture for the cover page of the PAT file/portfolio.

PHASE 3: Presentation requirements

Create a PAT file/portfolio containing:

- A complete **cover page**
- An **index**
- The **2017 SUMMATIVE ASSESSMENT SHEET** (see page 26)
- The completed **DECLARATION OF AUTHENTICITY** (see page 27)

Present the following Phase 1 and Phase 2 presentation requirements in the PAT file/portfolio after the DECLARATION OF AUTHENTICITY:

- ALL the **design brief** requirements
- The evidence of ALL the relevant resource material used for the **required research**
- The **THREE freehand drawings** of THREE possible design solutions
- ALL the evidence of the **selection** of the **best solution**
- ALL the required **working drawings** (5.1 and 5.2) and the **pictorial drawing** (5.3)
- Provide clear evidence in the form of (a) **checklist(s)**, **continuous self-evaluation** of the **entire process** and the **meeting** of all the **deadlines** during the development of the PAT.

NOTE:

Include the following on each page of each presentation requirement:

- Clear **numbering** according to the numbers of the presentation requirements
- **Your** (the learner's) **name**
- The **date** of **completion** and **submission**

Assessment criteria and checklist for the 2017 EGD Mechanical PAT

- The **SUMMATIVE ASSESSMENT SHEET** on page 26 of the EGD PAT document must be used to indicate the final totals out of 10 for each assessment criterion.
- The **contribution** of each aspect of the PAT is as follows:
 - The **design process**, i.e. presentation requirements numbers 1, 2, 3, 4, 6 and 7, will contribute **25 marks** to the final PAT mark out of 100
 - The **working drawings and a pictorial drawing**, i.e. presentation requirement number 5, will contribute **50 marks** to the final PAT mark out of 100
 - **Drawing methods, drawing skills and presentation**, which should be assessed according to ANNEXURE A, will contribute **25 marks** to the final PAT mark out of 100.

ASSESSMENT CRITERIA AND CHECKLIST FOR THE 2017 EGD MECHANICAL PAT										
1 mark level descriptive	0	No evidence/not done or not correct/complete/compliant/achieved/very poor						Checked	Suggested mark allocation	Own notes/Comments
	1	All evidence shown/correct/complete/compliant/achieved/clear								
2 mark level descriptive	0	No evidence/not done/very poor								
	1	Evidence shown but not correct/complete/compliant/achieved/average								
	2	All evidence shown/correct/complete/compliant/achieved/clear/very good								
1	Design Brief									
	1.1	Identifying the primary problem and secondary problems in own words							2	
	1.2	Formulating of a design brief in own words							2	
	1.3	Creating a comprehensive list of the specifications for the selected jack and task							2	
	1.4	List of constraints for the selected jack and/or task							2	
	1.5	List of the entire process together with a management plan							2	
TOTAL								10		
2	Research (This should be restricted to a maximum of THREE A4 or TWO A3 pages per research topic)									
Relevant and usable research on:	2.1	Materials used for the parts/components of the selected system							2	
	2.2	Design features and/or function (purpose) of each individual part							2	
	2.3.1	The design and mechanism (working) of another system No. 1							2	
	2.3.2	The design and mechanism (working) of another system No. 2							2	
	Clear evidence that the research was used							1		
Sources included							1			
TOTAL								10		
3	Freehand drawings of THREE possible design solutions									
Assess each freehand solution as follow:	Relevant orthographic views				2	Final mark for each solution				
	Isometric drawing				2	Solution 1	10			
	Correct presentation of ALL the features				2					
	The relative size of all features and fixtures to each other				2					
	Labels and explanatory notes				2	Solution 2	10			
	Dimensioning				2					
	Narrative of improvement, modification or redesign				2					
	Functionality of improvement, modification or redesign				1	Solution 3	10			
(Use 7-mark rubric on page 45 of the EGD CAPS)				Subtotal = 15 ÷ 1,5 = TOTAL					10	
(1 = 1 ; 2 = 1 ; 3 = 2 ; 4 = 3 ; 5 = 3 ; 6 = 4 ; 7 = 5 ; 8 = 5 ; 9 = 6 ; 10 = 7 ; 11 = 7 ; 12 = 8 ; 13 = 9 ; 14 = 9 ; 15 = 10)										
4	Selecting the best freehand solution (This must be a separate presentation)									
	Appropriate and easily understandable presentation of the selection process							2		
	Using the requirements and specifications as criteria for the evaluation							2		
	Relevant and comprehensive reasons (evaluating and comparing)							2		
	A rating scale to score each solution, i.e. a mark allocation of each criteria							2		
	A summary of the reasons for the selected solution(s)							2		
TOTAL								10		
5	Working drawings and a pictorial drawing of selected drive/control system and solution									
	Drawing sheet preparation									
	Appropriately sized drawing sheets							1		
	Borders on all the drawing sheets of working drawings and pictorial drawing							2		
	Appropriate and complete mechanical title block on the first working drawing (5.1)							7		
	(Use 7-mark rubric on page 45 of the EGD CAPS)						TOTAL		10	
5.1	Assembly drawing of the selected drive/control system, before any improvements/modifications/redesigns									
	5.1.1	Front view before any changes								
		ALL the parts included and drawn correctly according to actual drive/control system							2	
		All hatching detail or, if not sectioned, ALL external features							2	
		ALL bolts and nuts and other fastening methods correct in ALL FOUR views							2	
		Labels and notes for ALL FOUR views							2	
		Projection symbol							1	
		Suitable scale selected and indicated correctly for ALL FOUR views							1	
TOTAL								10		

ASSESSMENT CRITERIA AND CHECKLIST FOR THE 2017 EGD MECHANICAL PAT				
5.1.2	Second primary (main) view before any changes			
	ALL the parts included and drawn correctly according to actual drive/control system		2	
	All hatching detail or, if not sectioned, external features		2	
	Dimensions for ALL FOUR views		2	
	ALL centre lines on ALL FOUR views		2	
	ALL FOUR views drawn correctly in third-angle orthographic projection		2	
TOTAL			10	
5.1.3	TWO other secondary views before any changes			
	Appropriate secondary views selected		2	
	ALL the parts included and drawn correctly according to actual drive/control system		2	
	All hatching detail or, if not sectioned, external features		2	
	TWO views sectioned or contain types of section		2	
	Correct cutting planes for the TWO sectional views and/or types of sections		2	
TOTAL			10	
5.2	Detailed drawing of the selected improvement/modification/redesign of the main part(s)/component(s)			
	Appropriate view selected as the front view and is drawn correctly		2	
	TWO other relevant views selected and drawn correctly		2	
	Improvement/modification/re-design correlates with selected freehand solution		2	
	Comprehensive list of explanatory labels and notes		2	
	Dimensions		2	
	ONE view sectioned , or contain types of section , and drawn correctly		2	
	Cutting plane(s)		1	
	ALL hatching detail		2	
	Relevant welding symbols and/or machining symbols and/or tolerances		2	
	Projection symbol		1	
	Suitable scale selected and indicated correctly		1	
	Drawing is in third-angle orthographic projection		1	
Subtotal = 20 ÷ 2 = TOTAL			10	
5.3	Detailed isometric drawing			
	Suitable scale selected and indicated correctly		1	
	Evidence of views/drawings and construction/method used for the drawing		2	
	Isometric drawing/answer (Use 7-mark rubric on page 45 of the EGD CAPS)		7	
TOTAL			10	
6	Continuous self-evaluation and the meeting of deadlines			
	Checklist(s) of continuous self-evaluation of the entire process (mark out of 10 ÷ 2)		5	
	The meeting of ALL the deadlines during the development (mark out of 10 ÷ 2)		5	
	TOTAL		10	
7	Presentation of the complete PAT file/portfolio			
	Cover page		1	
	Index		1	
	Summative assessment sheet and declaration		1	
	Correct sequencing of ALL presentation requirements		1	
	Name and numbering on ALL the presentation requirements		1	
	General impression of file/portfolio, e.g. binding, appearance etc. (mark out of 10 ÷ 2)		5	
TOTAL			10	
Assessment of drawing methods, drawing skills and presentation				
a	Freehand drawings			
	Freehand drawing methods and skills (See ANNEXURE A on page 23)		10	
	Neatness, line work/line quality and printing (See ANNEXURE A on page 23)		10	
b	Instrument drawings			
	Use of drawing instruments, drawing methods and skills (See ANNEXURE A on page 23)		10	
	Neatness, line work/line quality and printing (See ANNEXURE A on page 23)		10	
c	CAD drawings			
	Competence displayed in using a CAD system/program (See ANNEXURE A on page 23)		10	
	Layout and correctness of the drawings presentation (See ANNEXURE A on page 23)		10	

8. ANNEXURE A: RUBRIC FOR ASSESSING DRAWING METHODS, DRAWING SKILLS AND PRESENTATION

LEVELS OF PERFORMANCE													
MARK ALLOCATION			10	9	8	7	6	5	4	3	2	1	0
			100%	99%–90%	89%–80%	79%–70%	69%–60%	59%–50%	49%–40%	39%–30%	29%–20%	19%–1%	0%
Freehand drawings	METHODS AND SKILLS	The drawings display correct freehand drawing methods and skills as well as the method used to ensure good proportion and size	The drawings display excellent drawing methods and skills and the method used to ensure outstanding proportion and size .		The drawings display satisfactory drawing methods and skills and the method used to ensure satisfactory proportion and size .			The drawings display poor drawing methods and skills and there is little to no evidence of the method used which resulted in poor proportion and size .		The drawings display very poor drawing methods and skills and no method was used to ensure correct proportion .			
	Final drawing presentation is neat and there is consistency of line work/line quality, printing and dimensioning		Drawings are very neat and all line work/line quality, printing and dimensioning are outstanding and consistent .		Drawings are neat and line work/line quality, printing and dimensioning are generally good and mostly consistent .			Drawings are untidy with inconsistent line work/line quality, printing and dimensioning .		The line work/line quality, printing and dimensioning are unacceptable .			
Pencil instrument drawings	METHODS AND SKILLS	The drawings display the correct use of drawing instruments, drawing methods and skills .	The drawings display the correct use of drawing instruments and an outstanding application of drawing methods and skills .		The drawings display the correct use of drawing instruments and a satisfactory and mostly correct application of drawing methods and skills .			The drawings display poor use of drawing instruments and a poor and incorrect application of drawing methods and skills .		The drawings display an incorrect use of drawing instruments with incorrect applications of drawing methods and skills .			
	The final drawing presentation is neat and there is consistency of line work/line quality, printing and dimensioning		Drawings are very neat and all line work/line quality, printing and dimensioning are outstanding and consistent .		Drawings are neat and the line work/line quality, printing and dimensioning are generally good and mostly consistent .			Drawings are untidy and the line work/line quality, printing and dimensioning are inconsistent .		The line work/line quality, printing and dimensioning are unacceptable .			
CAD drawings	METHODS AND SKILLS	The level of competence displayed in using a CAD system	Displays a high level of skills, knowledge and ability in using a CAD system		Displays a satisfactory level of skills, knowledge and ability in using a CAD system			Displays a poor level of skills, knowledge and ability in using a CAD system		Shows little to no skills , knowledge or ability in using a CAD system			
	The layout of the final drawing is correct and the line work, printing and dimensioning is compliant and consistent		The layout of the drawings is correct and the line work, printing and dimensioning are compliant and consistent		The layout of the drawings is acceptable and the line work, printing and dimensioning are mostly compliant and consistent			The layout of the drawings is very poor and the line work, printing and dimensioning are not compliant and inconsistent		The layout, line work, printing and dimensioning are unacceptable .			

9. A SIMPLIFIED RUBRIC FOR THE VERIFICATION AND ALLOCATION OF MARKS

NOTE:

- The final mark out of 10 of each assessment criterion, i.e. the overall level of achievement according to the presentation requirement, **must be verified according to this rubric**.
- This rubric must also be used to allocate marks for all aspects of the assessment criteria which require a mark out of 10.
- The concept of '**benchmarking**', i.e. the identification of and allocation of marks for the best example(s) for each assessment criterion, should be applied when assessing the PATs.

VERIFICATION AND MARK ALLOCATION			
DESCRIPTION FOR MARK	GENERAL INDICATOR	± %	MARK
ALL/MORE than ALL the REQUIREMENTS are met. - PERFECT -	Error free	100%	10
ALL (ALMOST ALL) the REQUIREMENTS are met. - OUTSTANDING -	Very few errors	90% +	9
ALMOST ALL (MOST OF) the REQUIREMENTS are met. - VERY GOOD -	Few errors	80% +	8
The REQUIREMENTS are met SUBSTANTIALLY . - GOOD -	Some errors	70% +	7
The REQUIREMENTS are met ADEQUATELY . - SATISFACTORY -		60% +	6
The REQUIREMENTS are met MODERATELY . - ACCEPTABLE -	Many errors	50% +	5
ONLY SOME of the REQUIREMENTS are met. - UNACCEPTABLE -		40% +	4
VERY FEW of the REQUIREMENTS are met. - NOT ACHIEVED -	Mostly wrong	30% + Only a few correct features	3
The REQUIREMENTS are NOT met. - VERY POOR -	Completely wrong	29% and LESS	2
		Something done incorrectly/poorly	1
NOT DONE!	No work handed in!	Nothing to mark!	0

10. PRACTICAL ASSESSMENT TASK 2017: SUMMATIVE ASSESSMENT SHEET**PRACTICAL ASSESSMENT TASK 2017
SUMMATIVE ASSESSMENT SHEET**

SCHOOL:

NAME OF LEARNER:

(SURNAME AND INITIALS)

EXAMINATION NUMBER:

PART A: Design Process				PART B: Working and pictorial drawings				Drawing competency and skill				
CRITERIA			MARK	CRITERIA			MARK	CRITERIA			MARK	
1	A design brief demonstrating a clear understanding of the scenario with a list of the specifications and constraints			All drawing sheets are appropriately set up with a border and an appropriate title block/panel .				Freehand drawings ANNEXURE A	METHOD	The drawings display correct freehand drawing methods and skills and the method used to ensure proportion and size		
2	Evidence of relevant and usable research with the inclusion of a source			Orthographic drawings Assess each view's accuracy and correctness according to the selected solution, the stipulated requirements and EGD drawing principals	5.1.1	View 1 PAT 1: Plan PAT 2: Front view				The final drawing presentation is neat and there is consistency of line work/line quality, printing and dimensioning		
3	THREE freehand drawings of detailed possible solutions	1 st Solution			5.1.2	View 2 PAT 1: Section PAT 2: 2 nd main view		Pencil instrument drawings: ANNEXURE A	METHOD	The drawings display the correct use of drawing instruments, drawing methods and skills		
		2 nd Solution			5.1.3	View 3 PAT 1: 2 elevations PAT 2: 2 secondary views				The final drawing presentation is neat and there is consistency of line work/line quality, printing and dimensioning		
		3 rd Solution			5.2	PAT 1: Site plan PAT 2: Detailed drawing				CAD drawings ANNEXURE A	METHOD	The level of competence displayed in using a CAD system
4	Selecting the final/best solution which demonstrates a clear understanding of the design brief			The layout of the final drawing is correct and the line work, printing and dimensioning is compliant and consistent								
6	Clear evidence of continuous self-evaluation and the meeting of deadlines of all the requirements			Pictorial drawing	5.3	The correct drawing method and the presentation of the drawing PAT 1: 2-point perspective PAT 2: Isometric		TOTAL without CAD				
7	The presentation of the complete PAT file/portfolio							TOTAL with CAD				
Criteria Total				Criteria Total				CALCULATION without CAD				
CALCULATION				CALCULATION				CALCULATION with CAD				
Teacher's TOTAL				Teacher's TOTAL				Teacher's TOTAL				
TOTAL: A / 25				TOTAL: B / 50				TOTAL: C / 25				
Moderated TOTAL				Moderated TOTAL				Moderated TOTAL				
TOTAL: A / 25				TOTAL: B / 50				TOTAL: C / 25				
TEACHER'S TOTAL: A + B + C = / 100								ASSESSOR: Initial		MODERATOR: Initial		
MODERATED TOTAL: A + B + C = / 100												

11. DECLARATION OF AUTHENTICITY**DECLARATION OF AUTHENTICITY**

To be submitted with each learner's practical assessment task portfolio

NAME OF THE SCHOOL:

NAME OF LEARNER:
(SURNAME AND INITIALS)

EXAMINATION NUMBER:

I hereby declare that all the contents of the practical assessment task submitted by myself for assessment is my own original work and has not been plagiarised, copied from someone else or previously submitted for assessment.

SIGNATURE OF CANDIDATE

DATE / /2017
(DD/MM/YYYY)

NAME OF TEACHER:
(SURNAME AND INITIALS)

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

SIGNATURE OF TEACHER

DATE / /2017
(DD/MM/YYYY)

SCHOOL STAMP