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CIVIL TECHNOLOGY (CONSTRUCTION)

GUIDELINES FOR PRACTICAL ASSESSMENT TASKS

GRADE 12

2023

These guidelines consist of 15 pages.

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SECTION 1**1. INTRODUCTION**

The following 18 Curriculum and Assessment Policy Statement subjects contain a practical component must include a practical assessment task (PAT).

- **AGRICULTURE:** Agricultural Management Practices, Agricultural Technology
- **ARTS:** Dance Studies, Design, Dramatic Arts, Music, Visual Arts
- **SCIENCES:** Computer Applications Technology, Information Technology, Technical Sciences, Technical Mathematics
- **SERVICES:** Consumer Studies, Hospitality Studies, Tourism
- **TECHNOLOGY:** Civil Technology, Electrical Technology, Mechanical Technology, 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 regularly 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 differ 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. The PAT 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. The model should be done over THREE terms starting in Term 1 and Phase 1 should be done concurrently with the model in Term 1. Phase 1 must be completed, marked and internally moderated by the end of Term 1. Phase 2 must be completed, marked and internally moderated by **1 September 2023**.

- (a) All the phases of the PAT should be completed and presented for assessment by **1 September 2023** to allow sufficient time for external moderation.
- (b) During this phase, the teacher will conduct any final assessments that are outstanding. All the phases of the PAT are to be kept safely until the moderation process is completed at all levels (both provincial and national moderation).
- (c) **The internal moderator/departmental head 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 areas that are not included in the initial criteria.
- (f) When learners are selected during moderation (face moderation), they may be required to showcase their practical or drawing skills and knowledge.

All **teachers** must **design a pacesetter** in line with the time frames specified in the PAT to indicate the completion dates for the different phases 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 phases 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 should be administered and completed under controlled conditions.

After studying the guidelines teachers must fully explain the requirements of the different phases of the PAT and the criteria, as indicated in the assessment tools 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 **SECTIONS 3 to 5** of this document and hand it to the learners not later than the **first week after the opening of schools in January 2023**.

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

2.4 Assessment and moderation of the PAT

The PAT for Grade 12 is externally set and externally moderated, but internally assessed by the teacher and moderated by the internal moderator/departmental head.

2.5 Assessment

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

Both formal and informal assessments should be conducted on the different phases of 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 consider the requirements of the assessment of all the phases of the PAT and therefore plan the assessment programme of the PAT accordingly.

2.6 Moderation

During moderation of the PAT all phases of the PAT must be presented to the internal moderator as well as the external moderator.

Where required, the moderator should be able to call the learner to explain the function and working principles and also request the learner to exhibit the skills acquired during practical sessions for moderation purposes.

SECTION 3**3. GUIDELINES FOR THE LEARNERS: CONSTRUCTION TASKS**

Learner's name: _____

Time Allowed: Term 1 to Term 3

The practical assessment task (PAT) consists of TWO phases to be completed over THREE terms.

The PAT should be done over THREE terms starting in Term 1 with Phase 1 and Phase 2.

TIME SCHEDULE FOR THE COMPLETION OF THE PAT:

It is recommended that learners and teachers use this time schedule to finish the PAT in the allocated time.

| TERM | WORK TO BE DONE | |
|--------|------------------|---|
| Term 1 | Phase 1 | Building a one-and-a-half-brick pier with lime and sand |
| Term 1 | Phase 2 (Part 1) | Research, drawings and cutting list |
| Term 2 | Phase 2 (Part 2) | Making of formwork and reinforcement |
| Term 3 | Phase 2 (Part 3) | Casting of concrete, striking of formwork, finishing |

3.1 Instructions to the learner

- This practical assessment task (PAT) counts 25% of your final promotion mark.
- All work you produce must be your own effort.
- Use your discretion where dimensions and/or information have been excluded or omitted.
- Where available you may use electronic equipment, e.g. cellphones, cameras and digital cameras 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.**

3.2 Phase 1: Building of a one-and-a-half-brick pier with lime and sand.**Term 1****Duration of Phase 1: 5 hours per learner****Mark allocation: 20 marks****TASK:****Building of a one-and-a-half-brick pier with lime and sand.****Specifications:**

- Measure and mark out a one-and-a-half-brick pier.
- Prepare mixture.
- Build a one-and-a-half brick pier in stretcher bond, 8 courses high.
- Check for plumbness and squareness of pier.
- Finishing off the mortar joints between consecutive courses of the pier with the appropriate tool.

3.3 Marking guidelines for Phase 1

| ASSESSMENT CRITERIA FOR BUILDING A ONE-AND-HALF-BRICK PIER WITH LIME AND SAND | | | | |
|--|----------------------------|----------------|-------------------------------|---------------------------|
| LEARNER'S NAME AND SURNAME: _____ | | | | |
| ASSESSMENT CRITERIA | GOOD/ EXCELLENT | AVERAGE | POOR/NOT ATTEMPTED | MODERATED MARK |
| | 8-10 | 4-7 | 0-3 | 0-10 |
| Measure and mark out the layout of a one-and-a-half brick pier | | | | |
| Mixing of ingredients | | | | |
| Installation of damp-proof course | | | | |
| Building of a one-and-a-half-brick pier using the correct course | | | | |
| Correct use of applicable tools | | | | |
| Plumbness and squareness of pier | | | | |
| Finishing off the joints between consecutive courses of the pier | | | | |
| Quality of craftsmanship of the finished pier | | | | |
| TOTAL OUT OF 80 | | | | |
| CONVERTED TOTAL OUT OF 20 | | | | |

It is recommended that video clips and photos of the learner performing the task be kept electronically at the school and on a disc or memory stick (Backup).

3.4 Phase 2: Concrete lamp**Term: 1, 2 and 3****Duration: 20 hours****TASK:****Design and make a concrete lamp.****INSTRUCTIONS:**

- Research different types of designs of reinforced concrete lamps.
- Draw (freehand or with instruments) at least THREE designs of a concrete lamp.
- Select the preferred design and draw a scale drawing of the front, top and left views (first-angle orthographic working drawings) of the concrete lamp that you are going to make. Show ALL measurements on your drawing.
- Compile a cutting list for the formwork.
- Compile a schedule to show the stages and timeframes for the striking off the formwork.

Use the following specifications:

- The concrete lamp should not exceed 1 000 mm in height.
- Provide an electric cable and light fitting for the concrete lamp.
- Lamp shades can be made of any suitable material.
- Reinforcement for the concrete members must be added for strength.
- Formwork must be made for the casting of the concrete for all concrete members.
- Learners should use their innovation and creativity in making the concrete lamp.

NOTE: Evidence of research, drawings, cutting list, templates, stages of making and striking of formwork as well as the model should be available for moderation.

3.5 Marking guidelines for Phase 2

| ASSESSMENT OF THE CONCRETE LAMP | | | | |
|---|----------------------------|----------------|-------------------------------|---------------------------|
| LEARNER'S NAME AND SURNAME: _____ | | | | |
| ASSESSMENT CRITERIA | GOOD/ EXCELLENT | AVERAGE | POOR/NOT ATTEMPTED | MODERATED MARK |
| PLANNING | 8-10 | 5-7 | 0-4 | 0-10 |
| Research on different types of reinforced concrete lamps | | | | |
| THREE freehand/instrument drawings of different designs of concrete lamps | | | | |
| Compiling of cutting list for the formwork of the preferred design | | | | |
| Compiling a schedule of stages of making and striking of formwork | | | | |
| TOTAL: 40 | | | | |
| SCALE DRAWINGS OF PREFERRED DESIGN | 4-5 | 2-3 | 0-1 | 0-5 |
| Correctness of front view | | | | |
| Correctness of top view | | | | |
| Correctness of left view | | | | |
| Dimensions indicated on views | | | | |
| TOTAL: 20 | | | | |
| MARKING AND CUTTING OUT OF FORMWORK MEMBERS | 8-10 | 4-7 | 0-3 | 0-10 |
| Marking and cutting of formwork for the concrete lamp | | | | |
| TOTAL: 10 | | | | |
| ASSEMBLY OF FORMWORK | 12-15 | 6-11 | 0-5 | 0-15 |
| Marking and drilling of holes for screws to assemble formwork | | | | |
| Joining formwork members | | | | |
| Provisioning for electric cable, light fitting and lamp shade | | | | |
| TOTAL: 45 | | | | |
| REINFORCEMENT | 8-10 | 4-7 | 0-3 | 0-10 |
| Placing of reinforcement | | | | |
| TOTAL: 10 | | | | |
| CONCRETE | 8-10 | 5-7 | 0-4 | 0-10 |
| Mixing of concrete | | | | |
| Placing, compacting, and curing of concrete | | | | |
| TOTAL: 20 | | | | |
| STRIKING OF FORMWORK | 8-10 | 5-7 | 0-4 | 0-10 |
| Striking of formwork members without damage to concrete | | | | |
| TOTAL: 10 | | | | |
| FINISHING OF PRODUCT | 8-10 | 5-7 | 0-4 | 0-10 |
| Finishing of external surface of the concrete | | | | |
| TOTAL: 10 | | | | |

| ASSESSMENT CRITERIA | GOOD/ EXCELLENT | AVERAGE | POOR/NOT ATTEMPTED | MODERATED MARK |
|---|----------------------------|----------------|-------------------------------|---------------------------|
| FINAL PRODUCT | 4-5 | 2-3 | 0-1 | 0-5 |
| Neatness, appearance and functionality of final product | | | | |
| TOTAL: 5 | | | | |
| INNOVATION AND CREATIVITY | 4-5 | 2-3 | 0-1 | 0-5 |
| The learner enhances his/her chosen design by adding features to improve the appearance and functionality of the concrete lamp. | | | | |
| TOTAL: 5 | | | | |
| GENERAL ASPECTS | 4-5 | 2-3 | 0-1 | 0-5 |
| Adherence to deadlines | | | | |
| TOTAL: 5 | | | | |
| TOTAL OUT OF 180 | | | | |
| CONVERTED TOTAL OUT OF 80 | | | | |

3.6 Composite mark sheet for Construction PAT

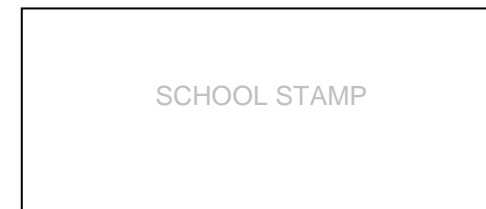
| SURNAME AND NAME OF LEARNER | | PHASE 1 | | PHASE 2 (MODEL) | | | | | | | | | | | TOTAL | | | | | |
|-----------------------------|--|---|----------------|-----------------|----------|-------------------------------------|----------------------|---------------|----------|----------------------|----------------------|---------------|---------------------------|-----------------|---------------|----------------|----------------|----------------|----------------------------|----------------|
| | | TERM 1 | | PART 1 TERM 1 | | PART 2 TERM 2 | | PART 3 TERM 3 | | | | | | | | | | | | |
| | | BUILDING OF ONE-AND--A-HALF-BRICK PIER WITH LIME AND SAND | MODERATED MARK | PLANNING | DRAWINGS | MARKING AND CUTTING OUT OF FORMWORK | ASSEMBLY OF FORMWORK | REINFORCEMENT | CONCRETE | STRIKING OF FORMWORK | FINISHING OF PRODUCT | FINAL PRODUCT | INNOVATION AND CREATIVITY | GENERAL ASPECTS | TOTAL PHASE 2 | MODERATED MARK | CONVERTED MARK | MODERATED MARK | TOTAL: (PHASE 1 + PHASE 2) | MODERATED MARK |
| NO | | 20 | 20 | 40 | 20 | 10 | 45 | 10 | 20 | 10 | 10 | 5 | 5 | 5 | 180 | 180 | 80 | 80 | 100 | 100 |
| 1 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | | | | | | | |

Signature of (Teacher)

Date

Signature of (Moderator)

Date



SECTION 4

4. OTHER RELEVANT INFORMATION

4.1 Absence/Non-submission of task (What are the consequences?)

The absence of a PAT 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 must be presented by the candidate for assessment and moderation:

- Phase 1: Mark sheet with evidence
- Phase 2: Evidence of planning and scale drawings of the model
- Phase 2: Mark sheet with completed model
- The candidate's name and class must be clearly indicated on all components of the PAT
- Completed Declaration of Authenticity with school stamp

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

- A composite mark sheet (ONE composite mark sheet comprising all candidates' names and marks for all phases)

4.3 Recommended time frames for the completion of the PAT

Term 1:

- Phase 1 and Phase 2 (Part 1)

Term 2:

- Phase 2 (Part 2)

Term 3:

- Phase 2 (Part 3)

The product/model should be manufactured in the workshop under the teacher's supervision.

NOTE: The learners should start with the model at the beginning of Term 1 and complete it by **1 September 2023**. The teacher should properly plan and manage the available resources so that all learners will be busy with some part of the tasks throughout the year.

SECTION 5**5. CONCLUSION**

On completion of the practical assessment task learners should be able to demonstrate their understanding of the built environment/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.