

# CIVIL TECHNOLOGY (CIVIL SERVICES)

## GUIDELINES FOR PRACTICAL ASSESSMENT TASKS

**GRADE 12** 

2021

These guidelines consist of 14 pages.

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#### 1. INTRODUCTION

The 18 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

Technical Sciences, Technical Mathematics

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. 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 **30 September 2021**.

- (a) All the phases of the PAT should be completed and presented for assessment by the end of **September 2021** to allow sufficient time for the external moderation.
- (b) During this phase, the teacher will do any final assessments that are outstanding. All the phases of the PAT are kept safely until the moderation process is completed (both provincial and national moderation).
- (c) The internal moderator/HOD must conduct PAT moderation 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** 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 them to the learners not later than the **first week after the opening of schools in February 2021**.

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 12 is externally 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 the learner to ensure that he/she is on the right track.

Both formal and informal assessment should be conducted during the different phases of the PAT. Informal assessment may be conducted by the learner himself/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 phases of the PAT and therefore plan the assessment programme of the PAT accordingly.

#### 2.6 Moderation

During the moderation of the PAT, all the 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 on the learner to explain the function and principles of operation and also request the learner to exhibit the skills acquired during practical sessions for moderation purposes.

#### 3. GUIDELINES FOR THE LEARNER

| CIVI | II CEDV |        | глеис |
|------|---------|--------|-------|
| CIVI | IL SERV | ICES 1 | HONG  |

| 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        | Installation of a shower                   |  |  |  |  |  |  |
| Term 1 | Phase 2 PART 1 | Research, sketches and material list       |  |  |  |  |  |  |
| Term 2 | Phase 2 PART 2 | Cutting of sheet metal and pipes for stand |  |  |  |  |  |  |
| Term 3 | Phase 2 PART 3 | Assembly of wall-mounted lamp              |  |  |  |  |  |  |

#### 3.1 Instructions to the learner

- This 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.
- 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.

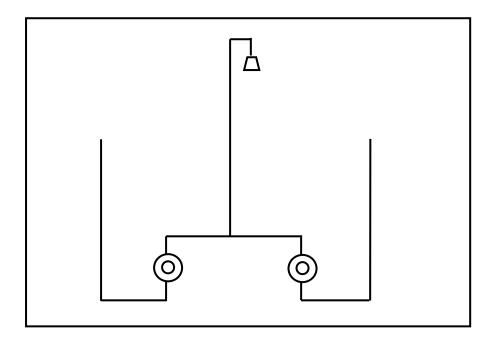
#### 3.2 Phase 1: Installation of a shower

**Duration of Phase 1: 4 hours per learner** 

Mark allocation: 20 marks

#### TASK:

The DIAGRAM below shows the basic layout of the pipes and fittings for a shower rose/head.



#### **INSTRUCTIONS:**

• Install the pipes, taps and necessary fittings, as indicated in the diagram above.

#### NOTE:

- All pipes should be cut to length by the teacher before the learner starts the installation.
- The stopcocks and fittings do not have to be new (used fittings and stopcocks may be used).

#### 3.3 Marking guidelines for Phase 1

| ASSESSMENT CRITERIA  | GOOD/<br>EXCELLENT | AVERAGE | POOR/<br>NOT ATTEMPTED |
|--|--------------------|---------|------------------------|
|  | 8–10               | 4–7     | 0–3                    |
| Layout of cold- and hot-water supply pipes correctly positioned, as per diagram                          |                    |         |                        |
| Cold-water supply pipes up to stopcock are correctly connected with appropriate fittings                 |                    |         |                        |
| Hot-water supply pipes up to stopcock are correctly connected with appropriate fittings                  |                    |         |                        |
| Stopcocks are correctly connected with appropriate fittings and are installed at the same height (level) |                    |         |                        |
| Cold- and hot-water pipes are correctly connected from the stopcocks to the mixer pipe                   |                    |         |                        |
| Shower arm and rose/head correctly positioned and connected with appropriate fittings to mixer pipe      |                    |         |                        |
| TOTAL MARK OUT OF 60:  |                    |         |                        |
| CONVERTED MARK 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 and or memory stick (backup).

#### 3.4 Phase 2: Wall-mounted lamp

Term: 1, 2 and 3 Duration: 20 hours

#### TASK:

You are required to design and make a wall-mounted lamp with a lamp shade.

#### **INSTRUCTIONS:**

- Research different types of designs of wall-mounted lamps with lamp shades. The arm/frame should be made from copper pipe or galvanised pipe or a combination of the two materials. The lamp shade should consist of any appropriate shape and should be made from sheet metal.
- Make neat drawings (freehand or with instruments) of at least THREE designs of wall-mounted lamps with a lamp shade.
- Provide the preferred design of the wall-mounted lamp you are going to make with dimensions.
- Compile a cutting list for the wall-mounted lamp.

#### Use the following specifications:

- The bracket should be easily mountable against a wall and be stable enough to carry the weight of the lamp shade.
- Use suitable fittings or joining methods to join the pipes so that the lamp shade can be adjustable.
- The shape of the wall-mounted lamp should consist of the development of any appropriate shape.
- The development of the lamp shade should be drawn according to scale 1:1 to be used to make a template.
- Provision must be made for the wiring of the light fitting.

**NOTE:** Evidence of the research, drawings, templates, cutting list as well as the model itself should be available for moderation.

#### 3.5 Marking guidelines for Phase 2

| ASSESSMENT OF THE WALL-MOUNTED LAMP  |                    |         |                           |                 |  |  |  |
|--|--------------------|---------|---------------------------|-----------------|--|--|--|
| LEARNER'S NAME AND SURNAME:  |                    |         |                           |                 |  |  |  |
| ASSESSMENT CRITERIA  | GOOD/<br>EXCELLENT | AVERAGE | NOT<br>ATTEMPTED/<br>POOR | LEARNER<br>MARK |  |  |  |
| PLANNING   | 8–10               | 4–7     | 0–3                       | LM              |  |  |  |
| Research on different types of wall-mounted lamps with lamp shades   |                    |         |                           |                 |  |  |  |
| THREE freehand drawings or ONE instrument drawing of the preferred design showing relevant dimensions        |                    |         |                           |                 |  |  |  |
| Compiling of cutting list  |                    |         |                           |                 |  |  |  |
| TOTAL: 30  |                    |         |                           |                 |  |  |  |
| FABRICATION OF BACK PLATE (BRACKET)  | 8–10               | 4–7     | 0–3                       | LM              |  |  |  |
| Measuring and cutting of material for wall bracket/mounting plate  |                    |         |                           |                 |  |  |  |
| Joining of material by using appropriate joining methods   |                    |         |                           |                 |  |  |  |
| Provisioning of appropriate method for fixing bracket to wall and arm/frame                                  |                    |         |                           |                 |  |  |  |
| TOTAL: 30  |                    |         |                           |                 |  |  |  |
| ARM/FRAME FOR ELECTRICAL WIRING  | 4–5                | 2–3     | 0–1                       | LM              |  |  |  |
| Measuring and cutting of pipes for arm/back plate  |                    |         |                           |                 |  |  |  |
| Connecting pipes for back plate, arm/frame by using appropriate methods allowing for the adjustment of pipes |                    |         |                           |                 |  |  |  |
| TOTAL: 10  |                    |         |                           |                 |  |  |  |
| FABRICATION OF SHAPED LAMP SHADE   | 8–10               | 4–7     | 0–3                       | LM              |  |  |  |
| Drawing of development of shaped lamp shade  |                    |         |                           |                 |  |  |  |
| Using template of development to mark out the shape on the sheet metal                                       |                    |         |                           |                 |  |  |  |
| Correct use of tools to accurately cut out the shape of the lamp shade                                       |                    |         |                           |                 |  |  |  |
| TOTAL: 30  |                    |         |                           |                 |  |  |  |

| ASSESSMENT CRITERIA  | GOOD/<br>EXCELLENT | AVERAGE | NOT<br>ATTEMPTED/P<br>OOR | LEARNER<br>MARK |
|--|--------------------|---------|---------------------------|-----------------|
| BENDING OF LAMP SHADE  | 8–10               | 4–7     | 0–3                       | LM              |
| Correct use of appropriate apparatus/alternative method to bend sheet metal              |                    |         |                           |                 |
| TOTAL: 10  |                    |         |                           |                 |
| JOINING  | 8–10               | 4–7     | 0–3                       | LM              |
| Joining ends of bended sheet metal using appropriate joining methods                     |                    |         |                           |                 |
| Accuracy of alignment and placement of different parts of wall-mounted lamp when joining |                    |         |                           |                 |
| TOTAL: 20  |                    |         |                           |                 |
| FINISHING  | 4–5                | 2–3     | 0–1                       | LM              |
| Application of finishing agents  |                    |         |                           |                 |
| Fitting of electrical cord with socket for light bulb at the lamp shade                  |                    |         |                           |                 |
| TOTAL: 10  |                    |         |                           |                 |
| FINAL PRODUCT  | 4–5                | 2–3     | 0–1                       | LM              |
| Neatness and appearance of final product   |                    |         |                           |                 |
| Functionality of finished product  |                    |         |                           |                 |
| TOTAL: 10  |                    |         |                           |                 |
| INNOVATION AND CREATIVITY  | 4–5                | 2–3     | 0–1                       | LM              |
| Evidence of creativity and innovation  |                    |         |                           |                 |
| TOTAL: 5   |                    |         |                           |                 |
| GENERAL ASPECTS  | 4–5                | 2–3     | 0–1                       | LM              |
| Adherence to deadlines   |                    |         |                           |                 |
| TOTAL: 5   |                    |         |                           |                 |
| GR   | AND TOT            | AL OUT  | OF 160:                   |                 |
| CONVE  | RTED MA            | ARK OU  | T OF 80:                  |                 |

DBE/PAT 2021

#### 3.6 Composite mark sheet for Civil Services

|          |                   | Р                         | HASE           | 1     |          | PHASE 2 (MODEL)                     |                                    |                                     |                          |         | TOTAL            |               |                           |                 |             |                |                |                |                               |                |
|----------|-------------------|---------------------------|----------------|-------|----------|-------------------------------------|------------------------------------|-------------------------------------|--------------------------|---------|------------------|---------------|---------------------------|-----------------|-------------|----------------|----------------|----------------|-------------------------------|----------------|
|          |                   |                           | PART '         |       |          | PART 2<br>TERM 2                    |                                    |                                     |                          |         | PART 3<br>TERM 3 |               |                           |                 |             |                |                |                |                               |                |
| NO.      | NAMES OF LEARNERS | INSTALLATION OF<br>SHOWER | MODERATED MARK | TOTAL | PLANNING | FABRICATION OF BACK PLATE (BRACKET) | ARM/FRAME FOR<br>ELECTRICAL WIRING | FABRICATION OF<br>SHAPED LAMP SHADE | BENDING OF LAMP<br>SHADE | JOINING | FINISHING        | FINAL PRODUCT | INNOVATION AND CREATIVITY | GENERAL ASPECTS | GRAND TOTAL | MODERATED MARK | CONVERTED MARK | MODERATED MARK | FINAL TOTAL: 100<br>(P1 + P2) | MODERATED MARK |
|          |                   | 20                        | 20             | 20    | 30       | 30                                  | 10                                 | 30                                  | 10                       | 20      | 10               | 10            | 5                         | 5               | 160         | 160            | 80             | 80             | 100                           | 100            |
| 1.<br>2. |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 3.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 4.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 5.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 6.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 7.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 8.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 9.       |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
| 10.      |                   |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |
|          | TOTAL:            |                           |                |       |          |                                     |                                    |                                     |                          |         |                  |               |                           |                 |             |                |                |                |                               |                |

| Signature (Teacher)   | Date | SCHOOL STAMP |
|-----------------------|------|--------------|
| Signature (Moderator) | Date |              |

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#### 4. OTHER RELEVANT INFORMATION

#### 4.1 Absence/Non-submission of task

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 should be presented by the candidate for assessment and moderation:

- Phase 1: Mark sheet with evidence
- Phase 2: Evidence of planning of the model
- Phase 2: A 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 (research and sketches)

#### Term 2:

Phase 2 (cutting of sheet metal and pipes for wall bracket/mounting plate)

#### Term 3:

Phase 2 (assembly and finishing of wall-mounted lamp)

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

**NOTE:** The learners should start with the model at the beginning of Term 1 and complete it by the end of **September**. 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.

| 4.4    | Declaration of Authenticity   |         |                               |
|--------|---|---------|-------------------------------|
| NAME C | F THE SCHOOL:   |         |                               |
| NAME C | F LEARNER:  |         |                               |
| NAME C | F TEACHER:  |         |                               |
|        |   |         | SCHOOL STAMP                  |
|        | declare that the practical assessment task s<br>work and it has not been submitted for mode |         |                               |
| SIGNAT | URE OF LEARNER  | DATE (  | SUBMITTED)                    |
|        | knowledge, the above declaration by the cal<br>fered is his/her own.                        | ndidate | is true and I accept that the |
| SIGNAT | URE OF TEACHER  | DATE    |                               |

#### 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.