



UNIVERSITY
OF
JOHANNESBURG

<u>FACULTY</u>	: Education
<u>DEPARTMENT</u>	: Science and Technology Education
<u>CAMPUS</u>	: APK
<u>MODULE</u>	: TEACHING METHODOLOGY AND PRACTICUM 3A: CIVIL TECHNOLOGY (MOFPCA3)
<u>SEMESTER</u>	: First
<u>EXAM</u>	: June 2019

<u>ASSESSOR(S)</u>	: DR CF VAN AS		
<u>MODERATOR</u>	: MR W ENGELBRECHT (UJ)		
<u>DURATION</u>	: 1 HOUR	<u>MARKS</u>	: 50

NUMBER OF PAGES: 4 PAGES

INSTRUCTIONS:

1. Answer ALL THE QUESTIONS.
 2. Number your answers clearly.
 3. You may consult the CAPS for Civil Technology.
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QUESTION 1

- 1.1 Briefly discuss the role of civil *technology* within the made world. (3)
- 1.2 Briefly describe the rationale for *Civil Technology* as a school subject. (4)
- 1.3 Civil Technology as a school subject focuses on three main areas. Briefly describe each area of specialisation by referring to the intended context. (6)

[13]**QUESTION 2**

By analysing the CAPS document for Civil Technology, identify and briefly explain the main aspects needed to guide you as civil technology teacher in teaching and learning the subject.

[6]**QUESTION 3**

Conceptual knowledge relates to the links between knowledge items, to such an extent that when you can identify these links you will have conceptual understanding. Explain the FOUR types of conceptual knowledge by referring to the use of a pipe cutter for copper tubing (See Figure 1).

[8]

Figure 1

QUESTION 4

You have to plan lessons on **foundations** in the specialisation **construction** for learners in Grade 10 (CAPS, p 55).

- 4.1 Analyse the content to be covered under the topic foundations (specific) for Grade 10 and identify the main concepts to be taught. (4)
- 4.2 If one period is 40 minutes long, how many periods, according to the CAPS, do you have to cover all the content regarding foundations? (2)
- 4.3 How many time, according to the CAPS, are you supposed to spend on practical work during this period of time? (2)

[8]

QUESTION 5

- 5.1 Briefly explain how you can use observation in a formative way, as an assessment technique, effectively during a practical session in the Civil Technology class. (4)
- 5.2 Briefly explain how the learner can use self-assessment during the execution of the practical assessment task. (2)

[6]

QUESTION 6

Grade 10 learners are supposed to know how to deal with **quantities** in building construction (CAPS, p. 54).

You have to plan a lesson on how to calculate the number of tiles needed to cover the floor of a bedroom measuring $3m \times 3m$.

- 6.1 What is the underlying mathematical principle this method is based on? (2)

6.2 What will your instructional approach be, to teach the calculation of the number of tiles needed to cover the floor of a bedroom for the first time, and which instructional strategies will you use? **(4)**

6.3 How will you ensure that the learners understand the calculation of the number of tiles needed to cover the floor of a bedroom by relating to the underlying mathematical principle? **(3)**

[9]

TOTAL: 50