UNIVERSITY OF JOHANNESBURG

FACULTY	: Education
DEPARTMENT	: Science and Technology Education
CAMPUS	: APK
MODULE	: TEACHING METHODOLOGY AND PRACTICUM: FET ELECTRICAL TECHNOLOGY (MPFETY1)
SEMESTER	: Second
EXAM	: SSA January 2021

ASSESSOR(S) : MR W ENGELBRECHT

MODERATOR : MR V CANDIOTES (UP)

DURATION : SUBMISSION **MARKS** : 100

NUMBER OF PAGES: 9 PAGES

INSTRUCTIONS:

1. You have to do the assignment individually.
2. Submit it on Blackboard (BB) by uploading it to “Assessment”.
3. Use a Word document for this purpose. Please structure it according to the numbering used in the assignment. There are SIX questions with sub-questions.
4. Add your name, student number and the assignment number (e.g. Take-home assignment, Examination) to the Word document.
5. Complete and submit a declaration of authenticity with the assignment.

QUESTION 1

At an information session for Grade 9 learners and their parents regarding subject choices for the FET phase, you have an opportunity to market Electrical technology. What will you tell the Grade 9 pupils and their parents with regard to the following?

1.1 The nature of the subject. (3)

1.2 How the learners can benefit from taking the subject. (3)

[6]

QUESTION 2

According to the CAPS, the learners are introduced to single phase transformers for the first time in Grade 11.

2.1 To make teaching and learning more authentic you would surely use the first-period to introduce transformers to the learners as well as showing them where it is used in the industry. To do this you will need to do some research.

2.1.1 Briefly describe the content that you will present to the learners as your introduction. You are welcome to include pictures. (8)

2.1.2 Briefly explain the teaching approach as well as the appropriate teaching strategy you will use here. (2)

2.2 Now that the learners know exactly what transformers are all about you can commence with teaching cam drawing.

2.2.1 Explain step by step how you would teach the learners, for the first time, how to do calculations related to transformers referring to the CAPS, Grade 11, Term 2. (10)

2.2.2 Briefly explain the teaching approach as well as the appropriate teaching strategy you will use here. (2)

2.3 Conceptual knowledge relates to the links between knowledge items, to such an extent that when learners can identify these links, we can say that they have conceptual understanding. Briefly explain the concept of **conceptual understanding** by referring to transformers. (4)

[26]

QUESTION 3

3.1 Page to Grade 11, Term 2, Topic: The effect of alternating current on resistors, inductors and capacitors (RLC) in the CAPS document. Analyse the content and answer the following questions:

3.1.1 According to the CAPS, how much time (hours) should be spent on this topic? (1)

3.1.2 If one (1) period is 40 minutes long, how many periods do you have to cover mechanical drawing? (2)

3.2 Write your name and student number on the lesson plan template provided (See Annexure A). Use this lesson plan template and design a 40 minute lesson on any prescribed content under the following:

- Grade: **11**
- Term: **2**
- Topic: **The effect of alternating current on resistors, inductors and capacitors (RLC)** (21)

3.3 Develop an assignment appropriate for your lesson on RLC, including the following:

3.3.1 The question; (10)

3.3.2 The memorandum; and (10)

3.3.3 Use the attached analysis grid (See Annexure B) and evaluate your assignment regarding difficulty and Bloom's cognitive levels. (6)

[50]

QUESTION 4

During the execution of the practical assessment task (PAT), you will use different assessment types and techniques to assess the learners' progress regarding their practical skills and abilities? Briefly describe and motivate how you will use the following:

4.1 Informal assessment; (3)

4.2 Formative assessment; and (3)

4.3 Summative assessment. (3)

[9]

QUESTION 5

You spent five weeks at a school for the purpose of work integrated learning (WIL). Write a short reflection on the challenges and the good practices that you have experienced in the Electrical technology class room. Conclude your reflection by elaborating on how you think these experiences have prepared you for your career as an Electrical technology teacher.

[6]

QUESTION 6

If your initial training only gives you the knowledge and skills in a specific field in Electrical technology, e.g. Power systems, Electronics or Digital electronics, what will you do to empower yourself to become a good teacher?

[3]

TOTAL: 100

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Annexure A

LESSON PLAN TEMPLATE

NAME: _____ STUDENT NUMBER:_____

SUBJECT:_____

PHASE: _____

GRADE: _____

TITLE/TOPIC OF LESSON:_____

1.1 **SITUATION ANALYSIS** (Who? When? Where?)

_____

_____

_____

_____

_____

(3)

1.2 **SPECIFIC AIMS** (What for?)

Curriculum and Assessment Policy Statement (CAPS), p. _____

_____

_____

(2)

1.3. **LESSON OBJECTIVE** (What for?)

_____

_____

_____

(2)

2.1. **LEARNING CONTENT** (What?)

Procedural knowledge: (Thinking processes and skills)

_____

_____

_____

(2)

Conceptual knowledge (Factual knowledge: Definitions, concepts, rules, etc.)

_____

_____

_____

_____

(2)

CURRICULUM AND ASSESSMENT POLICY STATEMENT (CAPS)
Focus/Content, concepts and skills, p. _____

(4)

2.2. **TEACHER ACTIVITIES** (How?)

2.2.1 Setting the context (Introduction)

_____

_____

_____

(3)

2.2.2 Instruction

a) Instructional approach

_____

_____

(2)

b) Instructional strategy(ies)

_____

_____

(2)

c) Instructional skill(s)

_____

_____

_____

(3)

2.3. **LEARNER ACTIVITIES** (Types of tasks) (What for?)

_____

_____

(2)

2.4. **RESOURCES**

2.4.1 Instructional media

_____

_____

_____

(2)

2.5. **QUESTIONS** (Questions to be asked: relate to Bloom's taxonomy)

Formulate four (4) questions, one (1) on the lower cognitive level (knowledge), two (2) on the middle cognitive level (comprehension and application) and one (1) on the higher cognitive level (analysis, evaluation and synthesis)

(8)

2.6 **ASSESSMENT**

2.6.1 Type (Person, time, manner)

(3)

2.6.2 Technique

(1)

2.6.3 Instrument

(1)

[42 ÷ 2] = **[21]**

Annexure B

ANALYSIS FRAMEWORK FOR EGD ASSESSMENTS

SUBJECT: EGD Grade:	Test/Exam: Paper:	Test/Exam date:

Question and sub-questions (e.g. 1.1, 1.2, 1.3)	Topic (Paper 1: Civil Paper 2: Mechanical)	Max. score	± Time (min.) Calculated as a ratio of the total time	Difficulty			Bloom's cognitive level						Total
				Low	Med	High	R	U	App	Ana	E	C	
							Low		Med		High		
Total (marks)													
Total as % of the total marks													
Total % as per CAPS							30		40		30		

R= Remembering	App = Applying	E = Evaluation
U = Understanding	Ana = Analysing	C = Creating

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