



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF NATURAL RESOURCES AND AGRICULTURE SCIENCES

QUALIFICATION : BACHELOR OF OFFICE MANAGEMENT AND TECHNOLOGY	
QUALIFICATION CODE: 27AGR	LEVEL: 7
COURSE CODE: AMC520S	COURSE NAME: Agriculture Mechanisation
DATE: June 2019	PAPER: Theory
DURATION: 3 Hours	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Mr B. U. Kauteza
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<p style="text-align: center;">INSTRUCTIONS</p> <ol style="list-style-type: none">1. This paper consists of 7 Sections with questions2. All the questions are compulsory3. Read all questions carefully before answering.4. Number your answers clearly.5. Make sure your student number appears on the answering script.
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PERMISSIBLE MATERIALS

1. Examination paper.
2. Examination script.

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

SECTION G – MOTOR

Question 1

Draw a neat diagram showing the basic layout of an internal combustion engine fuel supply. (5)

Question 2

Briefly describe the following cycles of an internal combustion engine:

2.1 Compression stroke (4)

2.2 Power stroke (4)

[13]

SECTION D - SAFETY

Question 1

If you discover an unconscious person, clearly a victim of electric shock, and are unable to de-energize the electrical circuit, how do you remove the victim from the circuit? (2)

Question 2

Give your explanation of the following electrical safety concepts:

a. Earthing (2)

b. Circuit breaker (2)

Question 3

List any three main safety equipment and three tools used when you perform arc welding in the workshop. (6)

Question 4

What is the purpose of a safety switch on electrical equipment? (2)

[14]

SECTION E – WELDING

Question 1

What is the difference between DCEP and DCEN welding connections? (4)

Question 2

Briefly explain the following concepts in welding:

2.1 Welding bead (2)

2.2 Molten metal (2)

2.3 Slag (2)

Question 2

Draw a neat labelled sketch of an arc welding machine and the layout of welding work in the workshop. Show and name all the equipment. (10)

[20]

SECTION F – FENCING

Question 1

State any two (2) major reasons for good fencing in farming. (2)

Question 2

Briefly describe the steps you would follow to set a fencing post in the soil. (5)

Question 3

List all the materials and tools used during a Vermin proof/Jackal fencing. (10)

[17]

SECTION D – ALTERNATIVE ENERGY

Question 1

Mention any two (2) types of alternative energy sources that you know. (2)

Question 2

2.1 The pressure inserted for the flow of electrons in a conductor is called _____(a), its symbol is _____(b) and it is measured in _____(c) which is indicated with a _____(d) symbol. (4)

2.2 The rate of the flow of electrons in a conductor is called _____ (a), its symbol is _____ (b) and it is measured in _____ (c) which is indicated with an _____ (d) symbol. (4)

Question 3

Differentiate between the two (2) basic types of solar water heaters and indicate their components. (4)

[14]

SECTION F – WATER PUMPS AND INSTALLATION (11)

Question 1

List the (4) types of water pumps you will find in farming. (4)

Question 2

Which factors are normally influencing the choice of a water pump for a specific borehole? (5)

Question 3

State the functions of the following equipment:

- a. "Vastrap" (1)
- b. Pipe wrench (450mm) (1)
- c. Hammers (1)

[12]

SECTION G – CONCRETE

Question 1

Briefly discuss the handling and storage of cement for construction on a farm. (6)

Question 2

Name any four (4) factors that influence the crushing pressure of concrete. (4)

[10]

TOTAL [100]