



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF COMMERCE, HUMAN SCIENCE AND EDUCATION

DEPARTMENT OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING

QUALIFICATION : MUST BRIDGING PROGRAMME-TVET AGRICULTURE SPECIALISATION	
QUALIFICATION CODE: 04DNBTA	LEVEL: 4
COURSE CODE: FOF412S	COURSE NAME: FUNDAMENTALS OF FARM MECHANISATION
SESSION: DECEMBER 2025	PAPER: SECOND OPPORTUNITY
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Read all the questions carefully before answering.3. Number the answers clearly4. Each section must start on a new page5. This paper consist of 3 sections(A,B and C)

THIS QUESTION PAPER CONSISTS OF 8 PAGES (Including this front page)

Section A

Question 1

(10 marks)

Select the correct answer for each question . Write down the letter corresponding to your choice , next to the question number. **1 mark per question**

1. What is the meaning of maintenance in farm tools, equipment, and machinery?
 - a) The process of repairing only when tools are completely broken.
 - b) The process of preserving, sustaining, and ensuring the proper functioning of equipment, tools, and machinery.
 - c) The process of buying new equipment whenever old ones are worn out.
 - d) The process of storing tools without using them to avoid wear and tear.

2. What does a hazard entail?
 - a) A hazard is any source that poses a potential threat of causing harm or damage to humans, property, or the environment.
 - b) A hazard is a tool or equipment used to improve farm productivity.
 - c) A hazard is a safe method of protecting workers from accidents.
 - d) A hazard is the routine inspection of farm tools and machinery.

3. You can extend the life of your vehicle by making use of the following tips, except one, which one?
 - a) Check engine oil at every other fill-up.
 - b) Change the oil frequently.
 - c) Mix coolants.
 - d) Avoid hose hassles.

4. The following are types of maintenance except one. Which one is the exception?

- a) Preventive maintenance
- b) Corrective maintenance
- c) Routine maintenance
- d) Optional maintenance

5. Which of the following is not a recommended step when assisting an injured person at the workplace?

- a) Checking for danger first and wear gloves for safety reasons
- b) Give basic first aid
- c) Call for medical assistance
- d) Moving the injured person immediately, to stand up.

6. Which one is not applicable for good maintenance practice?

- a) To intervene after a failure occurs.
- b) To do maintenance only when necessary.
- c) To reduce the number of failures and shutdowns
- d) To reduce maintenance cost and cost due to production loss

7. The following are general requirements for an effective electrified fence except one.

Which one?

- a) The fence should be planned and designed for specific types of animals to be controlled, therefore, the power of the energizer and the placement of the wire strands and other posts should be suitable for the intended animal.
- b) It should be as low a cost as possible by using poor-quality materials.
- c) Should be neat and permanent and of low maintenance.
- d) Should be safe from contact with humans.

8. Which one is not true for concrete aggregates?

- a) Strong and hard to give a strong final concrete.
- b) Durable to stand up to wear and tear and weathering.
- c) Chemically active so that it reacts with cement.
- d) Clean, since dirt or clay sticking to the aggregates will weaken the bond between paste and aggregates.

9. These are the reasons to calibrate Agricultural machines and equipment except one, which one?

- a) To ensure accurate application of inputs
- b) To minimize wastage and save cost
- c) To reduce environmental pollution
- d) To increase the weight of the equipment and machineries

10. Which of the following is not a reason for adjusting the planter row spacing?

- a) Optimal plant growth and efficient machinery operation
- b) Facilitating easier field operation
- c) Promoting uniform crop growth and visual appearance
- d) It reduce soil compaction

Section B

(10 marks)

Question 2

State whether the following statements are **True** or **False**. Write down the T for True and F for False , next to the question number. **(1 mark per question)**

2.1. Pre-operational checks focus on the identification and replacement of damaged or worn components and the fitting of guards and shields.

2.2. Climate change is not one of the factors affecting agricultural mechanisation.

2.3. When maintaining farm workshop equipment, any leftover materials and waste from the maintenance work are gathered, processed, and either properly discarded or recycled according to environmental and workplace guidelines.

2.4. Prepare equipment for winter by draining fluids, adding anti-freeze, and ensuring that all components are protected against freezing temperatures.

2.5. It is called a combined harvester because it combines three main harvesting operation into one machine such as, watering, winnowing and primary tillage.

2.6. The planter should be carefully calibrated every season because seed size varies, and machinery wear can alter rates.

2.7. The planter's operations manual, lacks relevant information which give indication of the correct transmission setting for the desired seeding rate.

2.8. The brakes oil can be used in a vehicle engine, as long it help with lubrication and increase performance.

2.9. A butt weld is weld made between two plates so as to give continuity of section.

2.10. Wheel slip % = $\left[\frac{I_d - I_u}{I_d} \right] * 100$

Section C

Question 3

Answer all the questions

(20 marks)

3.1. Name four ways in which hazards enter our and affect our bodies. (4)

3.2. List 5 principles of daily maintenance practice in farm workshop (4)

3.3. Give the Functions of the following: (6)

- a) Electrode holder
- b) Earthing clamp
- c) Chipping hammer and wire brush

3.4. Name and explain the 3 main categories of hazards that could occur at workplace and give appropriate and relevant examples for each. (6)

Question 4.

(60 marks)

4.1. Explain the importance of adjusting the planter row spacing on planting equipment (5)

4.2. The most important factor in arc welding is the selection of the correct current. Explain what happens if the current is:

- a) Too low (4)
- b) Excessive/ too high (3)

4.3. Name and explain the 4 types of defects in welding due to faulty techniques. (8)

4.4. Give brief explanation on to ensure that mechanisation integrates into agricultural workflow. (5)

4.5. Name any 5-safety information of agrochemical on a product label. (5)

4.6. Name and explain the 3 stages of concrete **(6)**
4.7. Explain how to test the wheel slip when setting up the tractor for minimum tillage, using a harrow disc. **(6)**

4.8. Using your understanding of tractor operation and movement attachments. Discuss the key areas for a tractor set up and operation for a successful planting or seeding. **(20)**

4.9. What are the main elements of a fence? **(3)**

The end!!