



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES**

**DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS**

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| <b>QUALIFICATION: BACHELOR OF SCIENCE IN AGRICULTURE</b> |  |
| <b>QUALIFICATION CODE: 07BAGA</b>                        | <b>LEVEL: 7</b>                                |
| <b>COURSE CODE: AMC520S</b>                              | <b>COURSE NAME: AGRICULTURAL MECHANISATION</b> |
| <b>SESSION: JUNE 2025</b>                                | <b>PAPER: THEORY (PAPER 1)</b>                 |
| <b>DURATION: 3 HOURS</b>                                 | <b>MARKS: 100</b>                              |

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| <b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b> |                  |
| <b>EXAMINER(S)</b>                                  | Mr. H.TJIKURUNDA |
| <b>MODERATOR:</b>                                   | Mr. J. AMUTENYA  |

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| <b>INSTRUCTIONS</b>  |
| 1. Answer ALL the questions.<br>2. Read all the questions carefully before answering.<br>3. Number the answers clearly |

**THIS QUESTION PAPER CONSISTS OF 7 PAGES (Including this front page)**

## SECTION A: TRUE OR FALSE QUESTIONS

**QUESTION 1: State whether the following statements are TRUE or FALSE. Write the number of the question and either True or False next to the number.**

- 1.1 Safety at the workplace ensures workers remain vigilant and take appropriate measures to ensure they do not get injured while performing work.
- 1.2 Hazard identification is the first step in the risk management process.
- 1.3 The goal of hazard identification is to train workers about possible hazards that may be present in their workplace.
- 1.4 Risk analysis involves determining the likelihood and consequences of a hazard causing harm.
- 1.5 To prevent vehicle-related accidents at work, all implements that are improperly fastened must be towed.
- 1.6 The function of the fuel pump is to store and keep enough fuel for the duration of the journey.
- 1.7 The component of a vehicle that receives petrol and mixes it with air in the correct proportion is called the carburetor.
- 1.8 It is unnecessary to involve individuals unfamiliar with the work area during hazard identification.
- 1.9 The alternator on the vehicle changes some of the engine's electrical energy to mechanical energy.
- 1.10 The ignition system provides a powerful electrical spark to ignite the fuel mixture in the cylinder for the vehicle to start.
- 1.11 The wire assemblies are the most important part of any fence.
- 1.12 Intermediate posts perform only one function: to guide the line wires off the ground at the correct spacing.
- 1.13 Fencing material should conform to the standards and regulations of the suppliers.
- 1.14 One of the main elements of a fence is the strainer assembly.
- 1.15 There are two main strainer assembly designs, the diagonal stays and the box.
- 1.16 One way employers can reduce workplace noise is to install acoustic materials on walls and ceilings to enclose sound.
- 1.17 It is the sole responsibility of employers to ensure that workers are safe at the workplace.
- 1.18 The function of the vehicle's lubrication system is to prevent overheating after a long journey.
- 1.19 One of the ways to treat snakebites is to wipe the venom from the wound.

1.20 One of the advantages of an electrical fence is its low visibility.

[20 MARKS]

**SECTION A: SUBTOTAL [20]**

**SECTION B: MULTIPLE CHOICE QUESTIONS**

**QUESTION 2: Choose the correct/appropriate/relevant answer. (Write the number of the question and the letter only).**

- 2.1 Which of the following is **not** a recommended method to treat snake bites?
- a) Wipe venom from the wound
  - b) Apply a tourniquet
  - c) Kill the snake that is involved and take it to the health facility
  - d) Immobilise the limb
- 2.2 Which of the following is **not** a function of the exhaust system?
- a) Leads burnt gas away from the engine
  - b) Reduces noise
  - c) Gas inlet into the chamber to save passengers
  - d) Convert harmful gases
- 2.3 Which of the following does **not** apply to electrified fencing?
- a) Wire strands
  - b) Lightning protector
  - c) Thermostat
  - d) Energizer
- 2.4 The harm that a health hazard will cause depends on various factors. Which of the following is correct?
- a) The amount of the agent that is present
  - b) The size of your body
  - c) Time of day that you are exposed to the hazard
  - d) The condition of the environment during the hazard
- 2.5 One of the following is **not** a component of the vehicle's cooling system, Which one?
- a) Fan
  - b) Fanbelt
  - c) Timing belt
  - d) Radiator
- 2.6 One of the advantages of an electrical fence is that;

- a) It requires low maintenance, provided that the fence is correctly planned and erected.
  - b) It uses a lot of electricity
  - c) It works in all weather conditions.
  - d) Anyone can afford it.
- 2.7 The following are examples of zoonotic diseases that farmers may contract, except one. Which one?
- a) Psittacosis
  - b) Cryptosporidiosis
  - c) Lymphoma
  - d) Rabies
- 2.8 The following are worker infection control measures for zoonotic diseases. Choose the most appropriate one.
- a) Isolating diseased animals.
  - b) Appropriate use of personal protective equipment (e.g., gloves and outer protection, facial and respiratory protection).
  - c) Track aggressive animals so that restraints may be used when necessary.
  - d) Call in a veterinarian to assist with the control
- 2.9 Which of the following is a component of the drive train?
- a) ABS
  - b) SRS
  - c) Rear Axle
  - d) AC/Airconditioning
- 2.10 Provide the reason for giving first aid or administering first aid to a casualty.
- a) Prevent the condition from worsening.
  - b) It's a requirement of the Labour Act.
  - c) The casualty is a co-worker.
  - d) It is a humanitarian act of kindness.
- 2.11 ABC in first aid stands for?
- a) Airbag, Breathing, Circulation
  - b) Airways, Blood, Circulation
  - c) Airways, Breathing, Circulation
  - d) Airway, Blood, Control
- 2.12 What is your initial reaction in an emergency to render first aid?
- a) Control bleeding before moving the patient
  - b) Call the ambulance
  - c) Secure the scene
  - d) Identify the resources you need to use
- 2.13 An advantage of a wooden post for fencing is that;

- a) It has a longer lifespan
  - b) It costs less
  - c) It cannot be treated with creosote
  - d) It is available only in rural areas
- 2.14 Which of the following can be used as a material for droppers when constructing a fence?
- a) Concrete slab
  - b) Wooden droppers
  - c) Copper-wired droppers
  - d) Corrugated iron sheets
- 2.15 What is one of the main complications of animals biting humans?
- a) Contracting Tetanus
  - b) Severe bleeding
  - c) Trauma
  - d) Severe internal hemorrhage
- 2.16 Essential elements of farm water planning include the following. Choose the most appropriate.
- a) Matching financial resources to water availability.
  - b) Designing farm water supply and reticulation systems.
  - c) Determining how fast water supplies will run out during times of prolonged dry conditions.
  - d) Getting a drilling contractor
- 2.17 Which one is an advantage of solar energy?
- a) Among all the benefits of solar panels, the most important thing is that solar energy is not a truly renewable energy source; when there is no sun, there is no energy.
  - b) It cannot be harnessed in all areas of the world and is not available every day.
  - c) It is useful for people who can afford it
  - d) We cannot run out of solar energy, unlike some of the other sources of energy, because the sun will always be available.
- 2.18 What is the function of an electrode?
- a) Serves to direct the current and become molten.
  - b) Holds the filler metal in position for a good weld.
  - c) It is the main source of the heat needed to melt the metals
  - d) Serves as the filler metal in the bead.
- 2.19 What is curing in concrete terminology?
- a) It means how easy it is to place, handle, compact, and finish the concrete.

- b) It means how well concrete holds together when in the plastic state.
- c) Keeping the concrete safe, so it does not harm workers
- d) Keeping concrete continuously damp for a period, to allow it to reach maximum strength

2.20 Which is the appropriate definition of routine maintenance?

- a) It is repairing a machine after it breaks or when it stops working.
- b) It is a means of reaching the optimum value for equipment to perform the functions for which it is designed.
- c) Keeping the farm clean and safe.
- d) It is carried out at regular intervals and includes periodic checks of relevant areas.

[20MARKS]

**SECTION B: SUBTOTAL [20]**

### **SECTION C: SHORT ANSWER QUESTIONS**

#### **QUESTION 3**

- 3.1. Name 4 categories of major hazards that could happen at the workplace. (4)
- 3.2. Provide any 5 of the major systems that must function together for a vehicle to operate. (5)
- 3.3. Outline 4 ways in which you can control excessive bleeding from a wound of a vehicle accident victim by direct pressure. (4)
- 3.4. Briefly, outline any 2 environmental control measures that could be used to protect workers from contracting zoonotic diseases. (2)

[15 MARKS]

**SECTION C: SUBTOTAL [15]**

## SECTION D: STRUCTURED/LONG ANSWER QUESTIONS

### QUESTION 4

Heat illness can be deadly. Every year, thousands of workers become sick from exposure to heat, and some even die. Outline 7 prevention measures against heat exposure for workers.  
(7)

[7 MARKS]

### QUESTION 5

- 5.1. Discuss the 4 primary sources of alternative energy in terms of **how they work** and **generate electricity**. (10)
- 5.2. Explain the curing of cement in terms of the following: [11]
- a) What is curing? (2)
  - b) When to cure? (1)
  - c) Why cure? (3)
  - d) How to cure? (2)
  - e) How long to cure? (3)

[21 MARKS]

### QUESTION 6

Explain what you can do to ensure that equipment and machinery are maintained when it is not in use, including during the winter season. (9)

[9 MARKS]

### QUESTION 7

Explain in FULL the requirements of a good fence for commercial farming. (8)

[8 MARKS]

**SECTION D: SUBTOTAL [45]**

**TOTAL: 100**