



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

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

**DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS**

<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: JULY 2024</b>	<b>PAPER: 2</b>
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	MR HELMUTH TJKURUNDA
<b>MODERATOR:</b>	MR JEREMIA AMUTENYA

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>

**PERMISSIBLE MATERIALS**

1. Examination question paper
2. Answering book

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

## SECTION A: DEFINITIONS & TRUE OR FALSE QUESTIONS

### QUESTION 1

*Provide* the correct term for each of the following terms/phrase or word.

[10]

- 2.1. Determining appropriate ways to eliminate the hazard or control the risk when the hazard cannot be eliminated.
- 2.2. A hydraulic machine that works on the principle of forced vortex flow.
- 2.3. Serves to direct the arc and becoming molten.
- 2.4. It assists in forming the arc.
- 2.5. The process of removing air from concrete.
- 2.6. Are caused by bacteria, protozoa, fungi, viruses, parasites or prions, which are often part of an animal's natural flora (i.e., microorganisms that live in and on the animal) but can cause disease in humans.
- 2.7. When mixed with water, forms a paste, this paste acts like glue and holds or bonds the aggregates together.
- 2.8. Non-metallic particles trapped in the weld metal which may reduce the strength of the welded joint.
- 2.9. A joint formed by placing two pieces of metal end-to-end and then welding along the joint.
- 2.10. The practice of keeping in form or shape of equipment, machine system or object in its original status as much as possible.

### QUESTION 2

*State* whether each of the following statements are true or false. Only write the number of the question and True or False.

[10]

- 2.1. Hazard identification process should be done during the design and implementation of a project/work to avoid injuries in the workplace.
- 2.2. A snake bite cannot be treated by immobilizing the patient's limb that is affected.
- 2.3. Removing the needle cap by mouth will avoid needlestick injuries.
- 2.4. If the current of your welding machine is too high, your work pieces will be properly welded.
- 2.5. Solar energy makes use of fossil fuels, therefore it is a renewable energy source.
- 2.6. During the plastic state of concrete, a worker cannot walk over as he/she will sink.
- 2.7. Checking and topping up fluids ensures the longevity of your vehicle.
- 2.8. The number of livestock on a farm determines the type of fence to be erected.
- 2.9. The reciprocating pump makes use of the positive displacement principle to pump water from a borehole.
- 2.10. All sources of alternative energy are produced in the same way by connecting turbines to a shaft connected to a generator to produce electricity.

**SUBTOTAL: 20**

## SECTION B: MULTIPLE CHOICE QUESTIONS

### QUESTION 3

**Choose** the correct answer for each of the following statements. Write the number of the question and the corresponding letter. (Correct answer, example 3.1. a). **[10]**

3.1. The following are factors determining the severity of the harm caused by a health hazard on our bodies, **EXCEPT** one. Which **ONE**?

- a) Strength, or potency, of the agent.
- b) The environmental conditions of the area.
- c) How long you are exposed to the agent.
- d) Part of your body that is exposed.

3.2. Which **ONE** is **NOT** an example of routine maintenance?

- a) Coating of battery electrolyte
- b) Lubrication
- c) Inspection and minor adjustments of pressure flow
- d) Keeping an inventory list of equipment.

3.3. Which **ONE** is **NOT** a common type of hazard at the workplace?

- a) Fire and explosions
- b) Transportation and vehicle-related accidents
- c) Narrowed spaces
- d) Domestic violence

3.4. The following are initial actions you can take in an emergency, **EXCEPT** one. Which **ONE**?

- a) Inform the family of the casualty immediately.
- b) Only move the patient if absolutely necessary
- c) Keep the patient informed
- d) Use the right lifting methods

3.5. Which **ONE** is **NOT** applicable for daily vehicle inspection?

- a) Check the tyre pressure in all the tyres visually.
- b) Check the radiator's coolant level.
- c) Check the spotlights for looseness.
- d) Check the level of engine oil.

3.6. Which factor does **NOT** affect the strength and durability of concrete?

- a) Compaction
- b) Curing
- c) Cost
- d) Type of aggregate

3.7. Which **ONE** is **NOT** an element of a fence?

- a) Topography
- b) Strainer assembly at either end
- c) Intermediate posts
- d) Droppers and wire stretched tight between the strainers

3.8. The following are defects in welding caused by excessive current, **EXCEPT** one. Which **ONE**?

- a) Overheating of the electrode
- b) Lack of penetration
- c) Overheating and burning through of the workpiece
- d) Excessive splattering

3.9. The following statements are **TRUE/CORRECT** for welds EXCEPT one. Which **ONE**?

- a) It is one of the simplest and most versatile types of weld joint designs.

- b) The joint is formed simply by placing two pieces of metal end-to-end and then welding along the joint.
  - c) Weld edge preparation is not required.
  - d) The surfaces of the workpieces being joined are on the same plane and weld metal remains within the planes of the surfaces.
- 3.10. In an emergency, a casualty can stop breathing due to the following reasons, **EXCEPT** one. Which **ONE**?
- a) Head injury
  - b) Drowsiness
  - c) Suffocation
  - d) Poisoning

**SUBTOTAL: 10**

**QUESTION 4**

*Explain*, how a new farm fence is erected. (13)  
[13]

**QUESTION 5**

- 5.1. *Provide* the factors that determine the type of pump you can purchase for water provision on a farm. (3)
  - 5.2. *Name* 2 types of pumps commonly used in the provision of farm water. (2)
  - 5.3. *Name* three sources of water for agricultural operations. (3)
- [8]**

**QUESTION 6**

- 6.1. *Discuss* wind power as a source of alternative energy with regards to how the wind turbines work to produce electricity. (3)
  - 6.2. *Outline* the advantages of wind power. **No** need to explain. (7)
- [10]**

**QUESTION 7**

- 7.1. *Define* arc welding. (1)
  - 7.2. *What* are the effects of too low current on welding? (4)
- [5]**

**QUESTION 8**

- 8.1. *Name and explain* in detail, the 3 states of concrete. Make use of FULL sentences. (11)
  - 8.2. Curing of prepared concrete is very important. *Give* reasons why concrete slabs or platforms should be cured before any construction commences. (5)
  - 8.3. *Explain* how prepared concrete slabs or platforms are cured. (2)
- [18]**

**QUESTION 9**

- 9.1. *Explain* what good maintenance practice includes. (6)
- 9.2. *Differentiate* between corrective and preventive maintenance. (2)
- 9.3. Briefly, *explain* the importance of maintenance in agriculture (farming operations both animal and crop production). (8)

**[16]**

**TOTAL: 100**