NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES
SCHOOL OF AGRICULTURE AND NATURAL RESOURCES SCIENCES
DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS

QUALIFICATIONS: BACHELOR OF SCIENCE IN HORTICULTURE	
QUALIFICATIONS CODE: 07BHOR	**LEVEL: 7**
COURSE CODE: CPN610S	**COURSE NAME:** CROP PRODUCTION
DATE: JUNE 2025	**PAPER:** 1
DURATION: 3 HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER:	DR. VENAUNE HEPUTE
MODERATOR:	MR. CLIFFORD AKASHAMBATWA

INSTRUCTIONS

1. Answer all the questions.
2. Write neatly and clearly.
3. Mark all answers clearly with their respective question numbers.
4. All written work MUST be done in blue or black ink.
5. No books, notes and other additional aids are allowed.

PERMISSIBLE MATERIALS

1. Calculator
2. Examination paper
3. Examination script

THIS QUESTION PAPER CONSISTS OF 3 PAGES
(Excluding This Front Page)

SECTION A: MULTIPLE CHOICE AND TRUE / FALSE [MARKS]

QUESTION 1: MULTIPLE CHOICE QUESTIONS [10 MARKS]

Evaluate the statements in each numbered section and select the most appropriate answer or phrase from the given possibilities. Fill in the appropriate letter next to the number of the correct statement/phrase on your ANSWER SHEET. *[10 marks]*

1.

1.1. Plant classification among others include the following catergories EXCEPT

- **a)** Botanical classification
- **b)** Classification based on use and Industry grouping category
- **c)** Calssification according to taste and colour
- **d)** Classification according to handling methods

1.2. Horticultural crops botanical classification family EXCLUDE

- **a.** Liliaceae
- **b.** Leguminosae
- **c.** Solanaceae
- **d.** Tuberosum

1.3. Liliaceae family INCLUDE the following crops

- **a.** Green peas & green bean
- **b.** Onions, garlic & asparagus
- **c.** Maize, wheat & rice
- **d.** Cowpea, groundnuts, soybean

1.4. Solanaceae family INCLUDE the following crops

- **a.** Cabbage, lettuce & cauliflower
- **b.** Maize, wheat & rice
- **c.** Potato, sweet pepper & tomato
- **d.** Green peas & green bean

1.5. Leguminosae family INCLUDE the following crops

- **a.** Green peas, cowpea & green bean
- **b.** Cabbage, lettuce & cauliflower
- **c.** Potato, sweet pepper & tomato
- **d.** None of the above

1.6. QGIS stand for

- **a.** Quantity Geographical Information System
- **b.** Quality Geographical Information System
- **c.** Quantum Geographical Information System
- **d.** All of the above

1.7. Namibian agro-ecological crop production zones INCLUDE

a) Otjozondjupa, North Central, Zambezi, Kavango, Oshana
b) Karst, Central, North Central, Kavango, Zambezi, South, Orange
c) Karst, Kavango, Kunene, Omusati, Orange, South, North Central
d) Karst, Kavango, Kunene, Omusati, Orange, South, North Central, Zambezi

1.8. Seed treatment methods EXCLUDE

a) Seed disinfection
b) Seed pelleting
c) Seed coating
d) None of the above

1.9. The main goals of tillage for soil preparation is to attain

a) Well aerated soil
b) Good drainage
c) Fine tilth
d) All of the above

1.10. If compound fertilizer containing N. P. K in proportion of 3:2:2 (22) on the total quantity of 200 kg bag was purchased for tomato soil nutrients demand. What is the exact amount of N kg present in the 200 kg bag?

a) 12.6 kg
b) 18.8 kg
c) 6.3 kg
d) 9.4 kg

QUESTION 2: TRUE/FALSE QUESTIONS **[10 MARKS]**

Evaluate the statements and select whether the statement is true or false. Write the word 'True' or 'False' next to the corresponding number on your ANSWER SHEET. *[10 marks]*

2. **True or False**

2.1. Plants are the eukaryotes that form the kingdom *Animalea*
2.2. Plant morphology is the study of the internal structure of plants
2.3. Irrigation is the production of crops under direct rainfall of which the production mainly relies on rainwater for crop' growth.
2.4. Banana is one of the crops from *Solanaceae* family
2.5. *Triticum aestivum* is the scientific name of wheat crop
2.6. *Olericulture* is the growing and study of fruits
2.7. *Climate change* is a long-term change in the average weather patterns that define Earth's local, regional and global climates.
2.8. *A central pivot irrigation system* is a mechanized, pressurized example of sprinkler irrigation system.
2.9. *Capillary water* is held in the micro-pores after the drainage of the free water
2.10. *Gravitational water* drains away out of macro-pores after irrigation or rain

SECTION B: SHORT/LONG ANSWER QUESTIONS [MARKS]

Please answer ALL the questions in this section.

QUESTION 3: TERMINOLOGIES [20 MARKS]

3. **Define the following terminologies**
   - 3.1. Differentiate between gravitational water and hygroscopic water {4}
   - 3.2. Climate Change {4}
   - 3.3. Differentiate between Grafting and Pruning {4}
   - 3.4. Horticulture {2}
   - 3.5. Hydroponic {2}
   - 3.6. Binomial nomenclature {2}
   - 3.7. Pomology {2}

QUESTION 4: PLANT CLASSIFICATION SYSTEM AND CROP CULTIVATION TECHNIQUES [30 MARKS]

4. **Plant classification system and cultivation practices**
   - 4.1. Name two (2) grouping category of climate/thermo classification of vegetables and provide three (3) example crops for each category group {8}
   - 4.2. Name three (3) vegetable crop classification catergory groups based on uses and provide three (3) example crops for each category group {6}
   - 4.3. Explicitly explain the difference between nursery and greenhouse {6}
   - 4.4. Explain five (5) different soil structure shapes in relation to soil productivity? {10}

QUESTION 5: WEATHER AND CLIMATIC CONDITIONS [15 MARKS]

5. **Namibian weather and climatic conditions**
   - 5.1. With the assistance of illustrative map briefly describe Namibian rainfall distribution pattern {5}
   - 5.2. List any five (5) crop agro-ecological production zones in Namibian {5}
   - 5.3. Briefly describe Namibian climatic weather condition and weather description pattern of different cropping/climate seasons {5}

QUESTION 6: HORTICULTURAL CROPS CLIMATIC AND SOIL REQUIREMENTS [15 MARKS]

6. **Define the climatic and soil requirements of the following crops.**
   - 6.1. Define the soil, nutrients and climate requirements of tomato, potatoes, grape and carrots {7}
   - 6.2. Calculate Bulk Density. The core is 800 cubic cm that weighs 950 grams {3}
   - 6.3. Fertilizer Calculation. Determine (kg) quantity amount of N, P and K in the proportion of 3:2:2(22) compound fertilizer of 50 kg bag total quantity? {5}

END OF QUESTION PAPER