



**PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS

QUALIFICATION: BACHELOR OF SCIENCE IN HORTICULTURE	
QUALIFICATION CODE: 07BHOR	LEVEL: 7
COURSE CODE: PTP610S	COURSE NAME: PLANT PHYSIOLOGY
DATE: JULY 2025	
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr Grace N. Kangueehi
MODERATOR:	Dr Maliata Wanga

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

PERMISSIBLE MATERIALS

1. Examination question paper
2. Answering book

THIS QUESTION PAPER CONSISTS OF 1 PAGE (Excluding this front page)

QUESTION 1

- 1.1. What is the difference between angiosperms and gymnosperms? (2)
- 1.2. How do plants respond to light and gravity? (3)
- 1.3. What is the role of mycorrhizal associations in plants? (3)
- 1.4. Name the two main types of vascular tissue and their functions. (4)
- 1.5. A plant is placed in a hypertonic solution (high solute concentration). What will happen to the plant cells? Explain the underlying principle. (4)
- 1.6. Briefly explain the glycolysis process. (5)
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QUESTION 2

- 2.1. What are the main functions of plant roots? (5)
- 2.2. What are the advantages of propagation by tissue culture? (5)
- 2.3. Describe the soil, plant, and atmosphere continuum (SPAC). (6)
- 2.4. Describe the two main phases of photosynthesis and where they occur. (6)
- 2.5. Define photoperiodism and describe its three (3) forms? (7)
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QUESTION 3

- 3.1. Using a tomato plant briefly describe the different plant growth stages. (10)
- 3.2. Deliberate how water potential, evapotranspiration, stomatal regulation and solute concentration differences between the xylem and phloem influence transportation of water in plants. (10)
- 3.3. Define plant anabolism and describe the three stages of anabolism in details. (10)
- 3.4. Discuss the forms in which phosphorus is absorbed by the plants, its physiological role and how the deficiency can be identified in plants. (10)
- 3.5. Explain the role and applications of gibberellins in agriculture and horticulture. (10)
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Final Marks: 100