



FACULTY	AGRICULTURE, ENGINEERING & NATURAL SCIENCES		
SCHOOL	SCIENCE		
DEPARTMENT	ENVIRONMENTAL SCIENCE		
SUBJECT	PLANT FORM AND FUNCTION		
SUBJECT CODE	BLG 3612		
DATE	OCTOBER/NOVEMBER 2022		
DURATION	3 Hours	MARKS	100

REGULAR EXAMINATION

Examiners: Dr W.C. Nesongano, Mr H. Eiman, Dr L. Horn, Ms S. Nafuka, Dr C. Amoo, and Dr D. Kavishe

Internal Moderator: Prof E.G. Kwembeya (University of Namibia)

External Moderator: Prof C.T. Downs (University of KwaZulu-Natal)

This **Examination paper** consists of **three (3)** pages (including the front page)

Instructions

- Answer **all** questions from Section A.
- Answer **only 1** question from Section B.
- Label all your answers appropriately and neatly.

UNIVERSITY OF NAMIBIA EXAMINATIONS

SECTION A

Answer all questions in this section (75 marks)

Question 1 (25 marks)

1.1 Multiple choice questions (please select the correct answer for each question)

1. Plants can reproduce asexually through (1)
 - (a) using pollen.
 - (b) using cutting.
 - (c) using runners.
 - (d) fertilisation.

2. Which of these is not a phase of growth in plants? (1)
 - (a) Maturation.
 - (b) Elongation.
 - (c) Adulteration.
 - (d) Meristematic.

3. The male gametes in flowering plants are produced in (1)
 - (a) anthers.
 - (b) petals.
 - (c) ovaries.
 - (d) stigma.

1.2 Explain the term sporophyte. (3)

1.3 Define endophytes and list **two** benefits they provide to plants. (3)

1.4 Provide **two** advantages of sexual reproduction. (2)

1.5 Woody plants have secondary meristems. Name the **two** types of such cells and what they each produce. (4)

1.6 Explain what aerial roots are and provide **four** examples of plant groups that have these types of roots. (6)

1.7 Provide **four** main uses of plant stems by humans. (4)

Question 2 (25 marks)

2.1 What is the Casparian strip in roots, and what is its function? (4)

2.2 List any **five** evolutionary traits of vascular plants. (5)

2.3 Describe some food rewards that plants provide to animal pollinators. (6)

2.4 What characteristics make bees good pollinators? (10)

Question 3 (25 marks)

3.1 Explain what determines cuticle thickness in hydrophytes. (5)

3.2 Explain the roles that fire and grazing play in the maintenance of grasslands. (8)

3.3 Explain how annual, herbaceous perennial, and deciduous perennial plants differ in their adaptations to desert life. (12)

Sub-total marks (Section A) = 75

SECTION B: ESSAYS SECTION
Answer only ONE question from this section

Question 1

Write an essay in which you explain in detail how sugars and organic compounds in plants are transported from the source of production to the sink for storage. Include an appropriate diagram to illustrate your answer. (25)

OR

Question 2

Water is a very important plant resource. However, most plants lose water on a regular basis. Explain how and why plants lose water. (25)

Sub-total marks (Section B) = 25

Grand Total Marks = 100

END OF EXAMINATION_____