UNAM

FACULTY	AGRICULTURE, ENGINEERING & NATURAL SCIENCES		
DEPARTMENT	ENVIRONMENTAL SCIENCE		
SUBJECT	PLANT FORM AND FUNCTION		
SUBJECT CODE	BLG 3612		
DATE	OCTOBER/NOVEMBER 2021		
DURATION	3 hours	**MARKS**	120

SPECIAL/SUPPLEMENTARY EXAMINATION

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

Internal 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 Section (90 marks)

Question 1 (30 marks)

a) Briefly describe the key characteristics of Bryopyhtes? (3)

b) List groups of Gymnosperms that have characteristics associated more with Angiosperms and mention these characteristics. (4)

c) Briefly describe the disadvantages of asexual and sexual reproduction (4)

d) All seed plants and a few seedless vascular plants follow a heterosporous life cycle. Briefly describe the term heterosporous, giving examples. (5)

e) Give three differences between monocots and eudicots (6)

f) Briefly outline the adaptive significance of seeds. (2)

g) Distinguish between the following: (6)
   i. Actinomorphic and zygomorphic flowers
   ii. Complete and incomplete flowers
   iii. Perfect and imperfect flowers

Question 2 (30 marks)

a) List the three tissues of leaves, stems and roots. (3)

b) Explain the movement of sugars in the phloem. (6)

c) Explain how trees can grow tall stems without extensive wood. (6)

d) Explain what rhizomes are. .(4)

e) Describe roots as support structures for stems. (7)
f) Illustrate the difference between simple and complex plant tissues. (4)

Question 3 (30 marks)

a) Outline the two types of pollination and their differences in plants. (10)

b) Discuss the main seed germination triggers. (6)

c) Outline how plants prevent self-pollination or ways how cross-pollination can be promote in plants. (5)

d) Explain the relationship between flowers and fruits. (5)

e) What mechanisms do flowering plants use to attract pollinators? (5)

Section B: Essays Section

Answer only ONE question from Section B

Question 1

Write an essay discussing double fertilization in Angiosperms.

[30 marks]

Question 2

Write an essay discussing pollination in plants. Describing the reproductive floral organs, pollinating agents and flower modifications for pollinators and giving examples where relevant.

[30 marks]

The end