



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**Faculty of Health, Natural
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QUALIFICATION : BACHELOR OF SCIENCE	
QUALIFICATION CODE: 07BASC	LEVEL: 5
COURSE: GENERAL BIOLOGY 1B	COURSE CODE: GNB502S
DATE: NOVEMBER 2024	SESSION: 1
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY: EXAMINATION QUESTION PAPER

EXAMINER: DR JEYA KENNEDY

MODERATOR: PROF LAMECH MWAPAGHA

INSTRUCTIONS:

1. Answer all questions on the separate answer sheet.
2. Please write neatly and legibly.
3. Do not use the left side margin of the exam paper. This must be allowed for the examiner.
4. No books, notes and other additional aids are allowed.
5. Mark all answers clearly with their respective question numbers.

PERMISSIBLE MATERIALS:

1. Non-Programmable Calculator

ATTACHEMENTS

NONE

This paper consists of 5 pages including this front page

SECTION A:**[25 MARKS]****QUESTION 1: MULTIPLE CHOICE QUESTIONS****[10]**

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.

- 1.1 An example of a domain is;
(a) Animalia
(b) Protista
(c) Fungi
(d) Eukarya
- 1.2 A microbiologist analyses chemicals obtained from an enveloped RNA virus that infects monkeys and determines that the viral envelope contains proteins characteristic of monkey cells, but not the virus. Which of the following is the most likely explanation?
(a) the virus caused the monkey cell to produce proteins used to construct the viral envelope
(b) the protein is due to an immunological response by the monkey's immune system
(c) the viral envelope forms as the virus leaves the host cell
(d) the virus fools its host by mimicking its proteins
- 1.3 Bacteria can be classified according to their;
(a) type of cell walls
(b) methods of obtaining energy
(c) gram-staining characteristics
(d) all of the above
- 1.4 Which of the following is unicellular and heterotrophic?
(a) amoeba
(b) paramecium
(c) trypanosoma
(d) all of these
- 1.5 Which of the following represents the correct order of events in fungal sexual reproduction?
(a) plasmogamy, meiosis, germination, and karyogamy
(b) meiosis, plasmogamy, karyogamy, and germination
(c) germination, meiosis, karyogamy, and plasmogamy
(d) plasmogamy, karyogamy, meiosis, and germination

- 1.6 Which of the following is a plant with flagellated sperm and a sporophyte-dominated life cycle?
(a) chytrid
(b) fern
(c) charophyte
(d) liverwort
- 1.7 Hyphae in bread mold that grow across the surface of the bread;
(a) rhizoid
(b) stolon
(c) sporangiophore
(d) sporangium
- 1.8 Roots and shoots lengthen through activity at _____.
(a) apical meristems
(b) lateral meristems
(c) intercalary meristem
(d) Both a and b
- 1.9 Striated muscle is also called _____.
(a) cardiac muscle
(b) smooth muscle
(c) skeletal muscle
(d) involuntary muscle
- 1.10 Name the gymnosperms that have compound leaves.
(a) Ginkgophyta – ginkgo
(b) Cycadophyta – cycads
(c) Coniferophyta – conifer
(d) Gnetophyta - Ephedra

QUESTION 2: DISTINGUISH BETWEEN THE PAIRS OF THE FOLLOWING TERMS

[10]

Each answer carries two marks

- 2.1 Phylum and division
- 2.2 Viroids and prions
- 2.3 Staphylococcus and streptococcus
- 2.4 Sessile and sedentary animal
- 2.5 Chlorenchyma and aerenchyma

QUESTION 3: ONE SENTENCES ANSWERS**[5]****Each answer carries one mark**

- 3.1 What are homologous structures?
- 3.2 What is the suffix for family names of viruses?
- 3.3 What term is used to describe the region of echinoderms where the mouth is located (underside)?
- 3.4 Name the simple supportive cell in a flowering plant that is typically non-living.
- 3.5 What is the function of red bone marrow?

SECTION B: SHORT/LONG ANSWER QUESTIONS**[32 MARKS]****QUESTION 4: SHORT QUESTIONS****[10]**

The number of marks is given in brackets () at the end of each question.

- 4.1 Why do F⁻ cells always serve as DNA recipients during the process of conjugation between two prokaryotic cells? (2)
- 4.2 Identify two ecologically important characteristics of cyanobacteria. (2)
- 4.3 List three main differences between viruses and living cells. (2)
- 4.4 Write a brief note on the discovery of viruses. (4)

QUESTION 5: LONGER QUESTIONS**[22]**

- 5.1 Draw and explain the types of bacteria classified based on movement. (6)
- 5.2 How do fungi interact with humans, both positively and negatively? (5)
- 5.3 In a tabular form, compare the differences between pteridophytes and angiosperms, providing examples for each. (5)
- 5.4 Which plant part is responsible for transporting water, minerals, and sugars to different parts of the plant? Name and describe the two types of tissue that make up this overall tissue and explain the role of each. (6)

SECTION C:**[43 MARKS]****QUESTION 6: FLOW CHART****[17]**

- 6.1 Outline the classification of fungi with a flowchart and mention their common names. (7)
- 6.2 Draw the flowchart for the types and subtypes of connective tissues in the human body. (10)

QUESTION 7: ESSAY QUESTIONS**[26]**

- 7.1 In tabular form, compare the general characteristics of multicellular algae based on the following criteria: (12)

Phylum and common name			
Habitats			
Structure of Thallus			
Pigments			
Food Storage			
Cell Wall composition			
Distinguish character			
Example			

- 7.2 Justify the classification and relationships of animal phyla based on the type of body cavity, germ layers, and patterns of development. (14)

END OF QUESTION PAPER