



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH, APPLIED SCIENCES AND NATURAL RESOURCES**

**DEPARTMENT OF NATURAL AND APPLIED SCIENCES**

<b>QUALIFICATION:</b> BACHELOR OF SCIENCE	
<b>QUALIFICATION CODE:</b> 07BOSC	<b>LEVEL:</b> 5
<b>COURSE CODE:</b> GNB502S	<b>COURSE NAME:</b> GENERAL BIOLOGY 1B
<b>SESSION:</b> NOVEMBER 2022	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
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<b>MODERATOR:</b>	DR LAMECH MWAPAGHA

<p style="text-align: center;"><b>INSTRUCTIONS</b></p> <ol style="list-style-type: none"><li>1. Write clearly and neatly</li><li>2. Number the answers clearly</li><li>3. All written work <b>MUST</b> be done in blue or black ink</li><li>4. No books, notes and other additional aids are allowed</li><li>5. Mark all answers clearly with their respective question numbers</li><li>6. Draw diagrams wherever necessary</li></ol>
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**PERMISSIBLE MATERIALS**

None

**THIS QUESTION PAPER CONSISTS OF 6 PAGES**

(Including this front page)

**QUESTION 1:**

**Multiple choices**

**[14]**

**Each answer carries one mark**

- 1.1 Which of the following is the correct sequence for the hierarchy of taxa?  
a) kingdom, phylum, family, order, species  
b) kingdom, order, class, genus, species  
c) kingdom, class, phylum, order, species  
d) kingdom, phylum, family, genus, species
- 1.2 Photoautotrophs use \_\_\_\_\_.  
a) CO<sub>2</sub> as both an energy source and a carbon source  
b) light as an energy source and organic source  
c) organic as an energy source and CO<sub>2</sub> as a carbon source  
d) light as an energy source and CO<sub>2</sub> as a carbon source
- 1.3 In plants, fibers are a type of \_\_\_\_\_ cell.  
a) parenchyma  
b) sclerenchyma  
c) collenchyma  
d) mesophyll
- 1.4 Steroid hormones are secreted by;  
a) the adrenal cortex  
b) the gonads  
c) the thyroid  
d) both a and b
- 1.5 During winter or periods of drought, which one of the following plant hormones inhibits growth and seed germination?  
a) Ethylene  
b) Abscisic acid  
c) Gibberellin  
d) Auxin
- 1.6 Tobacco mosaic virus;  
a) is able to be crystallized  
b) causes disease in tobacco plants  
c) is smaller than bacterium  
d) all of the above
- 1.7 Transfer of genetic material in bacteria through virus is termed as;  
a) transduction  
b) recombination  
c) conjugation  
d) transformation

- 1.8 Which type of tissue forms glands?  
a) epithelial  
b) connective  
c) nervous  
d) muscle
- 1.9 The two simple tissues that are specialized for support are;  
a) parenchyma and collenchyma  
b) collenchyma and sclerenchyma  
c) sclerenchyma and parenchyma  
d) parenchyma and xylem
- 1.10 Antidiuretic hormone is produced by cell bodies in the hypothalamus but released from the \_\_\_\_\_.  
a) anterior pituitary  
b) posterior pituitary  
c) kidney  
d) pineal gland
- 1.11 Name the auxins that occur naturally in plants.  
a) indoleacetic acid (IAA)  
b) indolebutyric acid (IBA)  
c) naphthaleneacetic acid (NAA)  
d) 2, 4 dichlorophenoxyacetic acid (2, 4-D)
- 1.12 Primary growth refers to;  
a) the germination of a seedling  
b) an increase in the length of a plant  
c) an increase in the diameter of a stem  
d) growth produced by the lateral meristems
- 1.13 The multicellular bodies of \_\_\_\_\_ are differentiated into blades, stipes, holdfasts, and gas-filled floats;  
a) golden algae  
b) diatoms  
c) euglenoids  
d) kelp
- 1.14 ----- always promotes cell division.  
a) Auxin  
b) Gibberellin  
c) Cytokinin  
d) Ethylene

**QUESTION 2:**

Distinguish between the pairs of the following terms.

[4]

Each answer carries two marks

2.1 Chlorenchyma and aerenchyma

2.2 Lichen and mycorrhiza

**QUESTION 3:**

One sentences answers

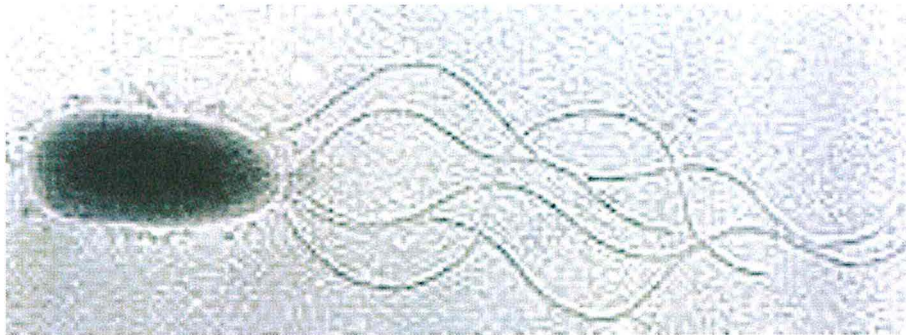
[3]

Each answer carries one mark

3.1 Define classification.

3.2 The Domain Eukarya is divided into how many kingdoms?

3.3 What is this type of bacteria?



**QUESTION 4:**

Short questions

[16]

4.1 What is the function of Adipose tissue?

(1.5)

4.2 Which three types of muscle tissue produce body movements?

(1.5)

4.3 Name two examples of connective tissue that you observed in lab that have a hard and dense matrix.

(2)

4.4 Identify one beneficial and one harmful role of Gram-negative bacteria.

(2)

4.5 Name the pigment found in Rhodophyta and Phaeophyta.

(2)

4.6 Name the two posterior-pituitary hormones and describe their actions and sites of production.

(3)



- 4.7 How do viruses, retroviruses, viroid, and prion differ in structure from each other? (4)
- I. Virus -
  - II. Retrovirus -
  - III. Viroids –
  - IV. Prions -

**QUESTION 5:**

**Longer questions**

[21]

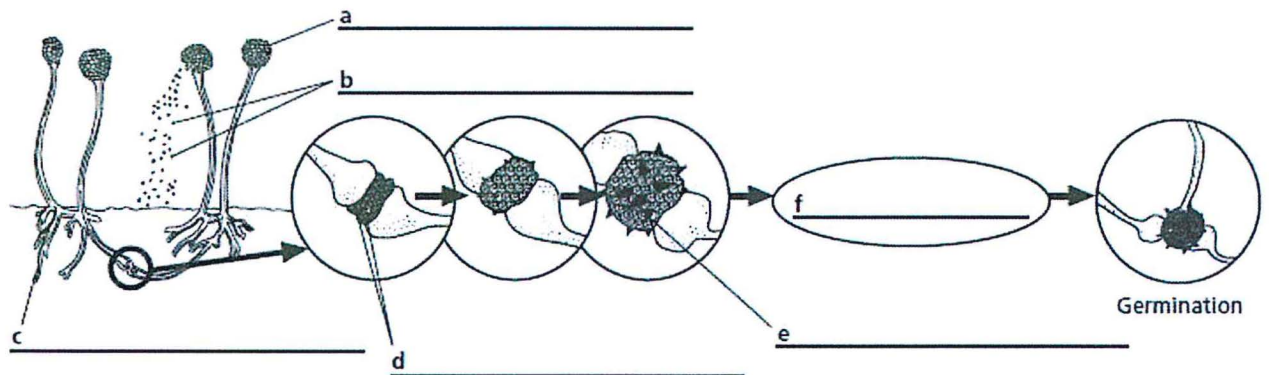
- 5.1 Describe the process of transduction reproduction in bacteria and draw diagrams to illustrate your answer. (5)
- 5.2 In the tabular column form mention the difference between Eubacteria and Archaeobacteria. (5)
- 5.3 Name the five important plant hormones and its main function. (5)
- 5.4 Name and describe the three-basic means of movement used by protozoan and mention the phylum they belong. (6)

**QUESTION 6:**

**Structures and functions**

[13]

- 6 Use the diagram to answer each question.  
The diagram below illustrates reproduction structure in fungi, label each structure a-f. (6)



- 6.1.1 What kingdom and phylum does the organism in the diagram belong to? What is the common name of this organism? (3)
- 6.1.2 How do the cell walls of fungi differ from those of plants? (1)
- 6.1.3 What do “plus” and “minus” mean when used in reference to fungi? (2)

6.1.4 What characteristic do fungi share with animals? (1)

**QUESTION 7:**

**Essay questions [29]**

7.1 What are the major divisions in the Plantae? What is the basis for these divisions, explain in detail and mention the division? (15)

7.2 Using a well labelled diagram briefly ascribe/outline the main stages of embryo development. (14)

**THE END**