



**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> 6
<b>COURSE CODE:</b> GNB502S	<b>COURSE NAME:</b> GENERAL BIOLOGY 1B
<b>SESSION:</b> JANUARY2023	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SUPPLEMENTARY / SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	DR JEYA KENNEDY
<b>MODERATOR:</b>	DR LAMECH MWAPAGHA

<b>INSTRUCTIONS</b>	
<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>	

**PERMISSIBLE MATERIALS**

None

**THIS QUESTION PAPER CONSISTS OF 6 PAGES**  
(Including this front page)

**QUESTION 1:**

**Multiple choices**

**[13]**

**Each answer carries one mark**

- 1.1 Which structures allow amoebas to move?  
a) cilia  
b) contractile vacuoles  
c) flagella  
d) pseudopods
- 1.2 Peptidoglycan is a chemical compound found in the cell walls of;  
a) most Eubacteria  
b) most Archaea  
c) prions  
d) most viroids
- 1.3 Which of the following is considered to be an animal-like protist?  
a) slime mold  
b) amoeba  
c) euglena  
d) dinoflagellate
- 1.4 Seedless vascular plants possess \_\_\_\_\_ to conduct water and dissolved minerals and \_\_\_\_\_ to conduct dissolved sugar.  
a) cuticle; xylem  
b) phloem; stoma  
c) phloem; xylem  
d) xylem; phloem
- 1.5 This plant hormone interacts with auxin during the formation of callus in tissue culture;  
a) Florigen  
b) Gibberellin  
c) Cytokinin  
d) Ethylene
- 1.6 A coelom is a body cavity completely lined with;  
a) epithelium  
b) ectoderm  
c) mesoderm  
d) endoderm
- 1.7 Which of these is not an endocrine gland?  
a) pancreas  
b) testes  
c) salivary gland  
d) parathyroid

- 1.8 From what type of tissue are endocrine and exocrine glands formed?
- a) connective
  - b) blood
  - c) muscle
  - d) epithelial
- 1.9 Which term do we use to describe the region of the body that contains an animal's tail?
- a) Ventral
  - b) Posterior
  - c) Anterior
  - d) Dorsal
- 1.10 To prevent duplicated names all names must be approved by \_\_\_\_\_.
- a) International Zoological nomenclature
  - b) International Code for Binomial Nomenclature
  - c) International law congresses
  - d) International Naming Congresses
- 1.11 Gram Positive bacteria will stain;
- a) Pink
  - b) Purple
  - c) Brown
  - d) red
- 1.12 In sexual reproduction (conjugation) bacteria exchange information through the \_\_\_\_\_ of the bacteria;
- a) flagella
  - b) cell wall
  - c) pilli
  - d) capsule
- 1.13 An F<sup>+</sup> bacterial cell \_\_\_\_\_.
- a) has many antibiotic resistance genes
  - b) acts as a recipient during conjugation
  - c) uses fimbriae to transfer DNA
  - d) acts as a donor during conjugation

**QUESTION 2:**

**Distinguish between the pairs of the following terms.**

**[6]**

**Each answer carries two marks**

- 2.1 Staphylococcus and streptococcus
- 2.2 Calcitonin and parathyroid hormone
- 2.3 Epiphytes and epipetric

**QUESTION 3:**

**One sentences answers**

**[3]**

**Each answer carries one mark**

- 3.1 Name who was the first taxonomist and what two groups did he place organism in?
- 3.2 What Domain of organisms probably evolved first?
- 3.3 How do scientific names appear in print?

**QUESTION 4:**

**Short questions**

**[7]**

- 4.1 What are hormones? State one function of each of the following hormones:  
(i) Thyroxine (ii) Insulin (3)
- 4.2 How are pteridophytes different from the angiosperm give some examples? (4)

**QUESTION 5:**

**Longer questions**

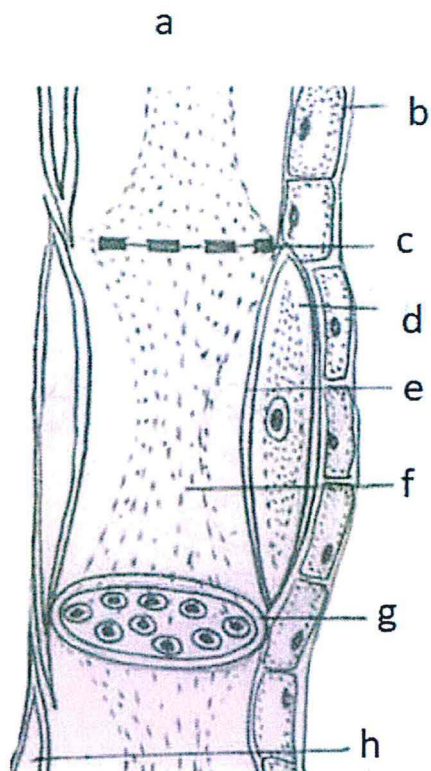
**[20]**

- 5.1 What is called as germ layers and name their function? (8)
- 5.2 In the tabular column form compare protostomes and deuterostomes ang give two example each. (5)
- 5.3 In a tabular form how do you distinguish the characteristic of protist classification. (7)

**QUESTION 6:**  
**Structures and functions**

[23]

6.1 Use the diagram to answer the questions below.

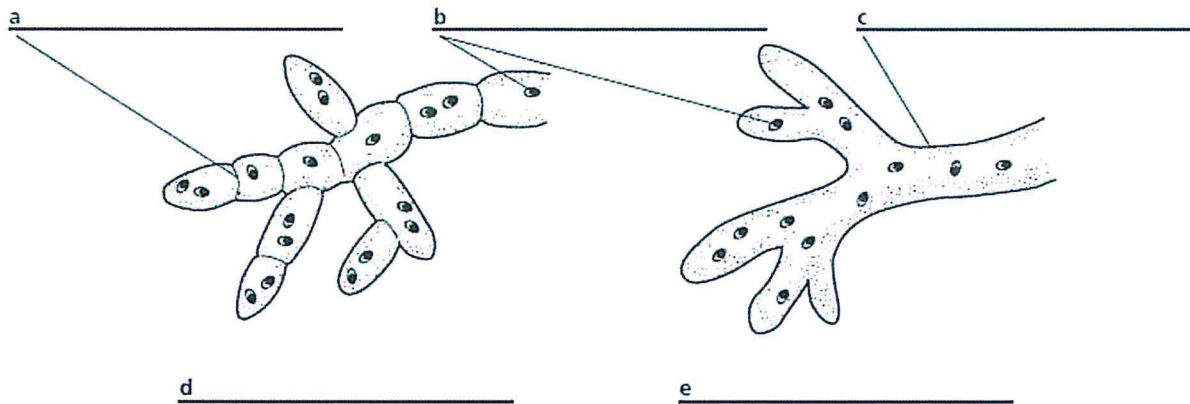


- 6.1.1 The figure above shows a diagram of a tissue, is it a simple or complex permanent tissue and is it a living, dead or both? (2)
- 6.1.2 Name the associated structure of companion cell. (1)
- 6.1.3 Name an enucleated plant cell in the above diagram. (1)
- 6.1.4 Mention the 4 components of the above diagram. (2)
- 6.1.5 What does the figure above transport? (1)
- 6.1.6 Identify the structures labeled g, f and c in the diagram. (2)
- 6.1.7 Name the small opening that connect the companion cells and the sieve tube cells, which help to load sugar. (1)



6.2 Use the diagram to answer each question.

Identify the structures labelled a – c and name the type of hyphae each drawing represents. (5)



6.2.1 What is mycelium is made of? (1)

6.2.2 All hyphae within a mycelium share \_\_\_\_\_ so materials can move quickly. (1)

6.2.3 When conditions are not favourable, which form of reproduction (sexual or asexual) is preferred by fungi? (1)

6.2.4 Name all the phylum does the organisms in the diagram d belong to and mention the common name of all the organisms? (3)

6.2.5 What are the uses of hyphae. (2)

**QUESTION 7:**

**Essay questions** [28]

7.1 Describe both the lytic cycle and the lysogenic cycle of bacteriophages and give 2 examples of each. (12)

7.2 Name and briefly describe the four subdivisions of gymnosperms. (16)

**THE END**