

0710/2/2022
BIO A/L

**SOUTH WEST REGIONAL MOCK EXAMINATION
GENERAL EDUCATION**

**THE TEACHERS' RESOURCE UNIT (TRU)
IN COLLABORATION WITH**

**THE REGIONAL INSPECTORATES OF PEDAGOGY AND
THE SUBJECT TEACHERS' ASSOCIATIONS (STA)**

TUESDAY, 25/03/2022 (Afternoon)

ADVANCE LEVEL

Subject Title	BIOLOGY
Paper Number	Paper 2
Subject Code Number	0710

THREE HOURS

INSTRUCTIONS TO CANDIDATES:

Answer any FIVE out of the eight questions.

If more than FIVE questions are answered, only the first five will be considered.

All questions carry 20 marks each. For your guidance, the approximate mark for each part of a question is indicated in brackets.

Illustrate your answers wherever desirable with large, clear, fully labeled diagram.

You are reminded of the necessity for good English and orderly presentation in your answers.

In calculations, you are advised to show all the steps in your working, giving your answer at each stage.

Calculators are NOT allowed

1. a) Make a fully labeled diagram of a named non-septate fungus
b) Differentiate between an Obligate and facultative parasites
c) What are Mycorrhizae? Give at least three (3) benefits of Mycorrhizae in its environment
(8,4,5,3 marks)

2. a) Draw a well labeled diagram illustrating the synthesis and secretion of a protein
b) Write the overall equation for Non-Cyclic photophosphorylation
c) Why is the overall equation of photoautotrophic nutrition considered as an oversimplification of the process?
(10,3,7 marks)

3. Discuss the effects on the environment of
a) Over fishing
b) Disposal of nuclear wastes
c) The use of pesticides and fertilizers
(5,5,10 marks)

4. a) Describe the development of a pollen grain in flowering plants
b) Explain the changes that take place during the development of the seed and fruits after fertilization
(10, 10 marks)

5. Discuss the functions of the skin in relation to
a) Protection
b) Regulation
c) Sensation
d) Secretion
e) Excretion
(5 x 4marks)

6. a) Draw a well labeled diagram of the transverse section of the cochlea showing the organ of corti
b) How does the ear maintain body balance?
(10, 10 marks)

7. a) Analyse the myogenic nature of the stimulation of the heart
b) Describe the part played by hormones and nervous system in controlling heart rate
c) Describe how lymph is formed
(8, 8, 4 marks)

8. a) What do you understand by Batch fermentation
b) List the techniques involved in genetic engineering
c) State how genetic engineering is useful in the pharmaceutical production of insulin
(5, 5, 10 marks)