

Name's of student.....

School Name.....

BIOLOGY PAPER 2

530/2

SENIOR SIX

JULY-AUG.

2025



COMPREHENSIVE BIOLOGY TRANSFORMATION INITIATIVE.

UGANDA ADVANCED CERTIFICATE OF EDUCATION.

(UACE)

5.6 CANDIDATES- 2025

PAPER 2

MOCK EXAMINATION

2 HOURS AND 30 MINUTES

INSTRUCTIONS TO THE CANDIDATES:

This paper consists of section A and B.

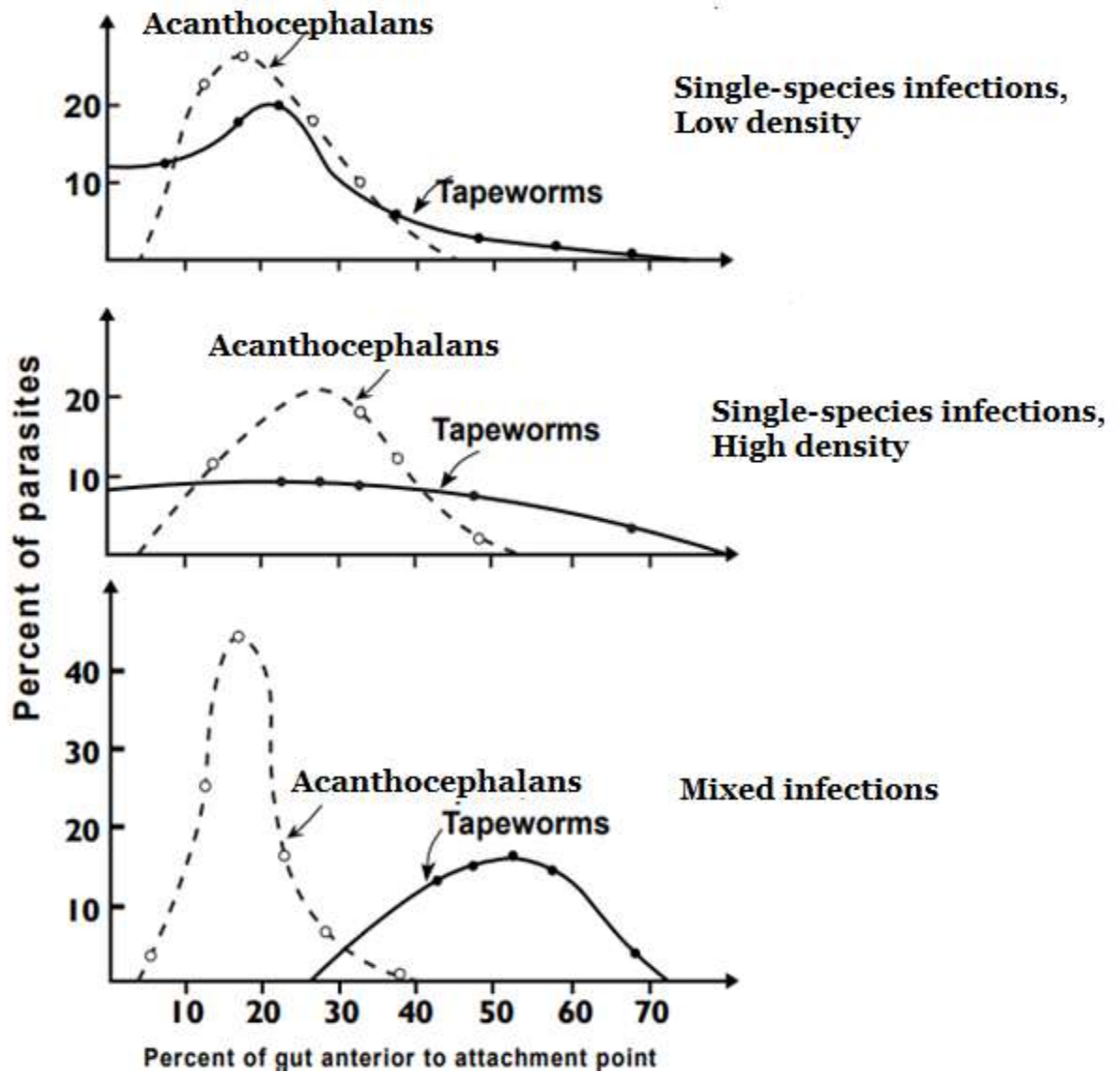
Answer question one in section A plus 3 questions in section B

Candidates are advised to read questions carefully, organize their answers and present them precisely and logically, illustrating with well labelled diagram wherever necessary.

SECTION A (40 MARKS)

N.B- QUESTION ONE IS COMPULSORY TO ALL CANDIDATES.

- 1) The Figure below shows the experimental studies of ecological niches. It illustrates the intra-intestinal distribution patterns of two gut parasites species, the Tapeworm, *Hymenolepsis diminuta* and the Acanthocephalan, *moniliform dubius*, in rat hosts. The graphs show single-species infections at low and high densities with mixed infections. Study the graphs carefully and provide suitable responses.



- (a) Compare the percentage of acanthocephalans and Tapeworms
- (i) In the single-species infections at low density. (05 Marks)
 - (ii) In the single-species infections at High density. (05 Marks)
 - (iii) In Mixed infections. (03 Marks)
- (b) Account for the differences in the Percentage of the acanthocephalans and tapeworms:
- (i) In the single species infections at Low density. (05 Marks)
 - (ii) In the single species infections at High density. (05 Marks)
 - (iii) In mixed infections. (05 Marks)
- (c) With reasons, suggest
- (i) The different types of niches shown in the graphs. (03 Marks)
 - (ii) What is shown by the interaction of the species in the graphs? (03 Marks)
- (d) State the Physiological adaptations that make the tapeworm rapidly colonise the gastro-intestinal tract. (06 Marks)

SECTION B (60 MARKS)

Answer Three Questions from this Section.

2. (a) Explain
- (i) How the absence of oxygen affects the Oxidative Phosphorylation in the body. (07 Marks)
 - (ii) The Properties of ATP that makes it an ideal cellular energy Currency. (08 Marks)

(b) Describe how the reversal of glycolysis leads to formation of starch during Photosynthesis. (07 Marks)

3. (a) Explain how plants have successively overcome the problems of adapting to life on land. (13 marks)

(b) Explain how Organisms have evolved Strategies to take advantages of new niches. (07 marks)

4. (a) Explain how flowering is controlled in plants. (12 marks)

(b) Explain the adaptations of the Placenta to its role. (08 marks)

5. (a)(i) What is meant by a Sere? (03 marks)

(ii) Describe how succession occurs when the spores or seeds land on a dry rocky surface. (07 marks)

(b) (i) Explain the Origins of the green-house gases. (05 marks)

(ii) Describe how the green-house effect occurs. (05 marks)

6. (a) With examples, explain the meaning of vacuum activity. (06 marks)

(b) State the importance of the following behaviours to the survival of the organisms.

(i) Territoriality. (07 marks)

(ii) Courtship. (07 marks)

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Comprehensive Biology Transformation Initiative.

Kampala –Uganda.

Transforming Biology Pedagogy.

Contributions made by MUGWE MARTIN.