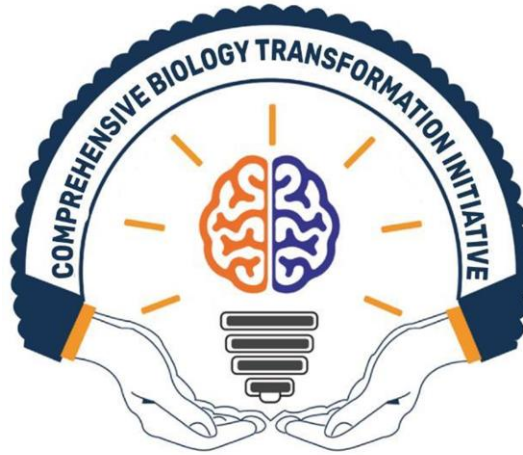


Name's of student.....
School Name.....

BIOLOGY PAPER II
P530/2
SENIOR SIX
SEPT-OCT.



COMPREHENSIVE BIOLOGY TRANSFORMATION INITIATIVE.
UGANDA ADVANCED CERTIFICATE OF EDUCATION.

(UACE)

S.6 CANDIDATES- 2024

PAPER 2

RESOURCEFUL EXAMINATION

2 HOURS AND 30 MINUTES

INSTRUCTIONS TO THE CANDIDATES:

This paper consists of section A and B.

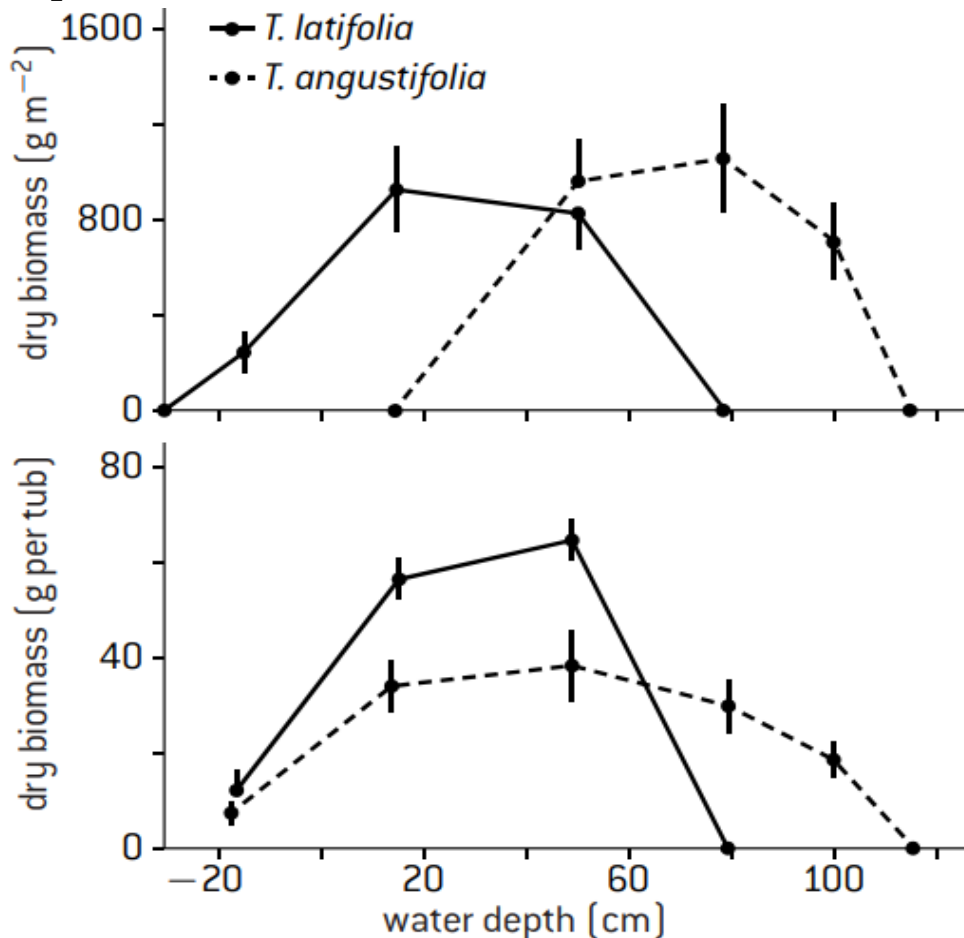
Answer question one in section A plus 3 questions in section B

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

Adapt to the 21st Century Pedagogical skills.

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

1. *Typha latifolia* and *Typha angustifolia* are plants that grow at the margins of lakes and ponds. Upper graph shows the natural distribution of the two species in a lake. Lower graph shows results of the experiment in which the two species were planted separately in tubs, and placed at different depths in water to assess their growth. Study the graphs carefully to provide credible responses.



- (a) Compare the dry biomass of the two species at the varying water depth in:
- Natural distribution.
 - Tubs planted at different levels. (07 marks)
- (b) Explain the differences in the dry biomass of the two species in:
- Natural distribution. (07 marks)

- (ii) In tubs at varying depth. (07 marks)
- (c) Explain
- (i) The types of niches shown in the two graphs. (05 marks)
- (ii) Effect of the two types of niches on the dry biomass of the two species. (07 marks)
- (d) Biomass is one way of measuring abundance. Explain the draw backs with the Biomass Pyramids. (07 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. (07 marks)
- (b) Describe how the reversal of glycolysis leads to formation of starch during Photosynthesis. (06 marks)
3. (a) Explain the reasons behind the fluidity of the cell membrane. (07 marks)
- (b) Explain the adaptations of the following Macro- molecules to their roles in organisms.
- (i) Collagen. (08 marks)
- (ii) Haemoglobin. (05 marks)
4. (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)
5. (a) Explain why the Loop of Henle is described as hair pin counter-current Multiplier system. (05 marks)
- b(i) Explain the role of the hypothalamus as a thermostat in the body. (10 marks)

(ii) Explain how the **ectothermic behaviour** of the **camel** allows its survival in **hot areas**. **(05 marks)**

6. a)(i) Distinguish between **natural selection** and **artificial selection**. **(07 marks)**

(ii) How has **Man positively** used the **knowledge of selection** in **agriculture?** **(07 marks)**

(b) Describe the **deviations** from the **classical Mendelian inheritance**. **(05 marks)**

END

Comprehensive Biology Transformation Initiative.

Kampala –Uganda.

Transforming Biology Pedagogy.

Contributions made by MUGWE MARTIN.