P530/2

BIOLOGY

PAPER 2

2½ hours

METU SENIOR SECONDARY SCHOOL

Uganda Advanced Certificate of Education

BIOLOGY DEPARTMENT - 2023

END OF TERM TWO EXAMMINATIONS-2023

S.5 BIOLOGY PAPER 2

THEORY

2hours 30 minutes.

INSTRUCTIONS TO CANDIDATES:

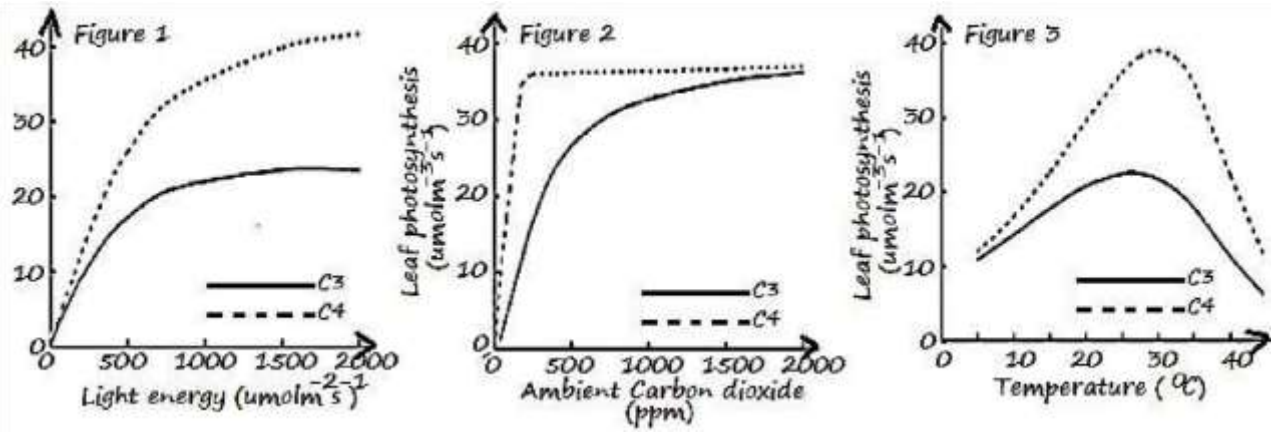
- ✓ Answer question one in section **A** plus three others from section **B**.
- ✓ Candidates are advised to read the questions carefully, organize their answers and present them precisely and logically, illustrating with well labelled diagrams where ever necessary.
- ✓ Write on the answer sheet, your name, index number and the questions attempted in their order as shown in the table.

QUESTION	MARKS
TOTAL	

SECTION A: (40 Marks)

Compulsory.

1. The figures below show effect of different factors affect leaf photosynthesis in C3 and C4 plants. Study them carefully to answer the questions below. Figure 1, 2 and 3 show effect of light intensity, ambient carbon dioxide and temperature respectively on leaf photosynthesis of C3 and C4 plants.



a) From the above figures, compare leaf photosynthesis in C3 and C4 Plants. **(10marks)**

b) Account for the observed differences figures 2 and 3. **(08marks)**

c) Describe the photosynthetic mechanism which occurs in the C4 plants. **(08marks)**

d) State the photosynthetic advantage of C3 plants over C4 plants.

(*i*) Using figure 1. **(03marks)**

(*ii*) Using figure 3. **(04marks)**

e) How is water photolysis relevant during photosynthesis? **(07marks)**

SECTION B: (60 Marks)

Qn2 Describe the structure, location and adaptation of epithelial tissues (20marks)

Qn3 (a) Explain the factors that determines the need for transport system in animals (07 marks).

(b) Describe;

(i) Water uptake by roots (06 marks)

(ii) Movement of water into and through the xylem tissue. (07 marks)

Qn4 a) Explain what is meant by the terms Negative and positive feedback mechanisms as used in homeostasis? (04mks)

b) How is Negative feedback mechanism achieved in regulation of mammalian blood sugar level (16marks)

Qn5 a) Describe the structure of a DNA molecule (10marks)

b) Precisely explain how DNA molecule can be replicated (10marks)

Qn6 a) Explain what happens to the glycolytic product within the mitochondrial matrix (15marks)

b) Compare photophosphorylation and oxidative phosphorylation (05marks)

THE END

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