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| NAME:…………………………………………………………………….  SUBJECT COMBINATION:…………………………………………… |

P530/2

BIOLOGY

Paper 2

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| S.6 BIOLOGY |

MARCH,2024



BRAINSTRORMING TEST

Uganda Advanced Certificate of Education

THE BIOLOGY DEPARTMENT

BIOLOGY

Paper 2

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES

SECTION A:

Compulsory Section.

SECTION B:

Answers Only 03 (three) Questions from this Section.

FOR EXAMINER’S USE ONLY

|  |  |  |
| --- | --- | --- |
| SECTION |  | MARKS |
| Section A: | 1 |  |
| Section B: | 2 |  |
|  | 3 |  |
|  | 4 |  |
|  | 5 |  |
|  | 6 |  |
| TOTAL |  |  |

**SECTION A ( 40 MARKS)**

**(COMPULSORY SECTION)**

QN.1.In an investigation to study the effect of light on the Physiology of filamentous algae,the amounts of glycerate-3-phosphate(GP),ribulose 1,5-biphosphate(RUBP) and Sucrose were measured by S.6 Biology Students from **Wilson Foundation High School-Iganga** at different time intervals in the presence of Sunlight.At 30th minute,light was removed completely.The results obtained are shown in the table below;Study it and answer the questions that follow;

|  |  |  |  |
| --- | --- | --- | --- |
| TIME (Minutes) | AMOUNT OF METABOLITES | | |
| GP | RUBP | SUCROSE |
| 0 | 40 | 30 | 10 |
| 10 | 40 | 30 | 46 |
| 20 | 40 | 30 | 54 |
| 30 | 40 | 30 | 60 |
| 40 | 50 | 20 | 46 |
| 50 | 58 | 10 | 30 |
| 60 | 60 | 06 | 16 |
| 70 | 60 | 06 | 06 |

1. Representg the results in a suitable graph. ( 12 marks)
2. Compare the variation in the amount of GP and RUBP with time.(05 marks)
3. Expalin the Variation in the amount of the followingmetabolites with time.
4. Glycerate-3-phosphate ( 08 marks)
5. Ribulose-1,5-biphosphate (07 marks)
6. Sucrose (08 marks)

**SECTION B(60 MARKS)**

**(ANSWER ANY THREE QUESTIONS)**

QN.2( a) Compare between Chloroplasts and Mitochondria (15 marks)

(b) State five (05) functions of the Nucleus to a cell (05 marks)

QN.3. (a) Describe how each of the following methods help plants in nutrient deficient soils to obtain nutrients.

1. Carnivorous/Insectivorous plants ( 05 marks)
2. Mycorrhiza ( 05 marks)
3. Root Nodules ( 05 marks)

(b) State five differences between Cyclic and Non cyclic Photophosphorylation ( 05 marks)

QN.4 (a)Describe five functions of Lipids to Living organisms. ( 05 marks)

(b) With the aid of diagrams,describe the Life Cycle of Bacteriophage.(10 marks)

(c ) With relevant examples in each case, State Five economic Importance Of Viruses in daily life. (05 marks)

QN.5.(a) Compare between gaseous exchange in Bony fish (Teleosts) and cartilaginous fish ( Elasmobranchs) (14 marks)

(b) Give reasons why Plants lack Specialised organs for gaseous exchange. ( 06 marks)

QN.6.(a) Define the following terms; (04 marks)

1. Osmosis
2. Diffusion
3. Facilitated diffusion
4. Endocytosis

(b) Describe the fluid mosaic model of the cell membrane. (08 marks)

(c ) Explain how the cell membrane is adapted to its functions (08 marks)

END

GOOD LUCK