

Biology III

013

04/08/2023 08:30 AM – 10:00 AM



ADVANCED LEVEL NATIONAL EXAMINATIONS, 2022-2023

SUBJECT: BIOLOGY III

PAPER III: ALTERNATIVE TO PRACTICAL

COMBINATIONS:

- BIOLOGY-CHEMISTRY-GEOGRAPHY (**BCG**)
- MATHEMATICS-CHEMISTRY-BIOLOGY (**MCB**)
- PHYSICS-CHEMISTRY-BIOLOGY (**PCB**)

DURATION: 1h30 min

INSTRUCTIONS:

- 1) Write your names and index number on the answer booklet as written on your registration form and **DO NOT** write your names and index number on additional answer sheets if provided.
- 2) Do not open this question paper until you are told to do so.
- 3) This paper consists of **one** compulsory question. (**20 marks**)
- 4) Use only a **blue** or **black** pen.

1. The table below shows results obtained from an investigation carried out on a fresh water plant. The plant was placed under water which had its CO₂ concentration varied as a number of bubbles of oxygen evolved per minute by the plant, and was observed and recorded. The experiment was carried out under sunlight at 25°C.

CO₂ concentration % by volume	Number of bubbles per minute
0.00	0
0.02	04
0.08	20
0.14	24
0.18	24

- a) What was the aim of the experiment? **(1 mark)**
- b) In the space provided, draw a graph to represent the information in the table above. **(6 marks)**
- c) Using the information in table above explain the observations:
- (i) CO₂ concentration of 0.00 **(3 marks)**
- (ii) Between the CO₂ concentration of 0.02 and 0.18 **(8 marks)**
- d) Suggest an explanation for what would be observed in the experiment if the:
- (i) CO₂ concentration was increased to 0.20 **(1 mark)**
- (ii) The temperature was lowered to 5°C **(1 mark)**

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