Biology III
013
30/07/2021 08:30 AM – 10:00 AM

NESA NATIONAL EXAMINATION AND SCHOOL INSPECTION AUTHORITY

ADVANCED LEVEL NATIONAL EXAMINATIONS, 2020-2021

SUBJECT: BIOLOGY III PRACTICAL EXAM

COMBINATIONS:

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

DURATION: 1 hour 30 minutes

Marks: /30

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) Answer the two questions in this paper and record your answers in the spaces provided.
4) Use only a **blue** or **black** pen.

All questions are compulsory

1) You are provided with Solution B. You are required to establish the food substances in Solution B.

a) Carry out the following tests and record the observations and deductions in the table below. **(10 marks)**

TESTS	OBSERVATION	DEDUCTION
(i) To 2 cm^3 of Solution B in a test tube, add 2 drops of Iodine solution		
(ii) To 2 cm^3 of Solution B, add equal volume of Benedict's solution and boil		
(iii) To 2 cm^3 of Solution B, add 4 drops of NaOH, shake, add 2 drops of $CuSO_4$ and shake		
iv) To 2 cm^3 of Solution B, add 4 drops of Ethanol and shake		
(v) To 3 drops of DCPIP, add solution B dropwise until excess		

b) (i) From the tests carried out in the table above, list the food substances in Solution B. **(2 marks)**

(ii) What is the significance of NaOH in test tube (iii) in the table above? **(1 mark)**

c) (i) Explain the observation of the following tests in the table above.

Test (ii).....

.....

(2 marks)

Test (v).....

.....

(2 marks)

2) You are provided with Solution X. You are required to identify the food substance in Solution X.

a) Carry out the tests in the table below and record the observations and deductions. **(10 marks)**

TESTS	OBSERVATION	DEDUCTION
(i) To 2 cm^3 of Solution X in a test tube, add 2 drops of Iodine solution		
(ii) To 2 cm^3 of Solution X, add equal volume of Benedict's solution and boil		
iii) To 2 cm^3 of Solution X, add 4 drops of NaOH, shake, add 2 drops of $CuSO_4$ and shake		
iv) To 2 cm3 of Solution X, add 4 drops of Ethanol and shake		
(v) To 3 drops of DCPIP, add solution X dropwise until excess		

b) (i) Name the food substances in Solution X. **(2 marks)**

(ii) Give the significance of food substances in Solution X. **(1 mark)**

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