CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

23 JANUARY 2023 (p.m.)

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FILL IN ALL THE INFORMATION REQUESTED CLEARLY IN CAPITAL LETTERS.

TEST CODE | 0 | 1 | 2 | 5 | 3 | 0 | 3 | 2 |

SUBJECT HUMAN AND SOCIAL BIOLOGY – Paper 032

PROFICIENCY GENERAL

REGISTRATION NUMBER | | | | | | | | | | |

SCHOOL/CENTRE NUMBER					

NAME OF SCHOOL/CENTRE

CANDIDATE'S FULL NAME (FIRST, MIDDLE, LAST)

DATE OF BIRTH | D | D | M | M | Y | Y | Y | Y |

SIGNATURE _____

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JANUARY 2023

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

HUMAN AND SOCIAL BIOLOGY

Paper 032 – General Proficiency

ALTERNATIVE TO SCHOOL-BASED ASSESSMENT

1 hour 15 minutes

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of a case study and FOURTEEN related questions.
2. Answer ALL questions.
3. Write your answers in the spaces provided in this booklet.
4. Do NOT write in the margins.
5. If you need to rewrite any answer and there is not enough space to do so on the original page, you must use the extra lined page(s) provided at the back of this booklet. **Remember to draw a line through your original answer.**
6. **If you use the extra page(s) you MUST write the question number clearly in the box provided at the top of the extra page(s) and, where relevant, include the question part beside the answer.**

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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INSTRUCTIONS: The following case study contains information for a research project. Read the case and answer the questions that follow each section.

CASE STUDY

Background

Jan is a member of her school's environmental club (EC). The popular beaches on the island are heavily polluted and so, once a month, the EC members organize a beach clean-up. At the last clean-up, rather than randomly placing the garbage in bags as customary, the members sorted the garbage by type. Before bagging the sorted garbage, they took pictures and counted the items of each type. When they returned to the school, they recorded their observations in a table. The club members decided to find out more about beach pollution. Later that week, they telephoned an officer from one of the island's environmental agencies to discuss the pollution seen on the beach. They also conducted research online to determine the best way to reduce the amount of solid waste that was ending up on their island's beaches.

1. Write a suitable statement of the problem.

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(2 marks)

2. State the aim of the investigation.

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(2 marks)

Methodology

3. State TWO methods that the EC members used to gather data for their research.

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(2 marks)

4. Suggest FOUR questions the EC members may have asked the environmental officer in the collection of their data.

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(4 marks)

5. State TWO precautions the EC members may have taken to protect themselves during the beach clean-up. Give ONE reason for EACH precaution stated.

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(4 marks)

6. Suggest ONE way in which the EC members could have improved their data collection.

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(1 mark)

GO ON TO THE NEXT PAGE

Presentation of Data

The EC members recorded the number of the types of garbage collected from the beach in Table 1.

TABLE 1: TABLE SHOWING THE NUMBER AND TYPES OF GARBAGE COLLECTED

Type of Garbage	Number of Items
Plastic utensils (forks, spoons, knives)	34
Styrofoam food containers	18
Cigarette butts	16
PET (soft drink, water) bottles	15
Plastic straws	12
Aluminium cans	12
Food scraps	8
Plastic bags	7
Coconut shells	5
Metal bottle caps	4
Broken glass	3
Rubber slippers	2
Clothing (synthetic)	1
Used diapers	1

7. The EC members placed the types of garbage collected into FIVE broad categories as shown in Table 2. Use the data in Table 1 to complete Column 2 of Table 2 by inserting the total number of EACH category of garbage.

TABLE 2: TABLE SHOWING BROAD CATEGORIES OF GARBAGE COLLECTED

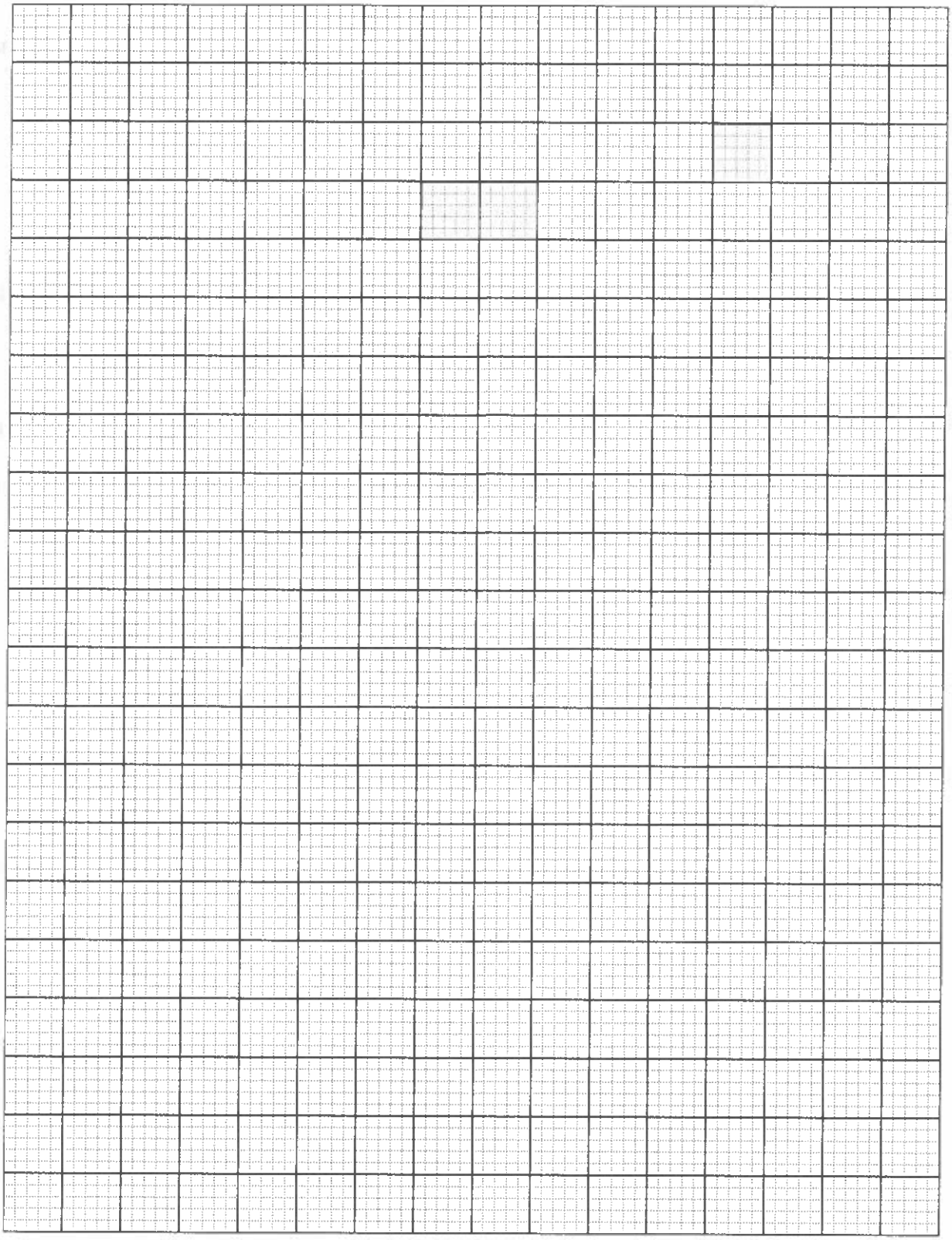
Category of Garbage	Number of Items
Recyclables	
Organic/biodegradable matter	
Plastic	
Styrofoam	
Other	

(5 marks)

8. On the grid provided **on page 7**, use a scale of 2 cm to represent 10 items to draw a bar chart to show the information in Table 2. Include a suitable title for your graph. **(5 marks)**

GO ON TO THE NEXT PAGE

Title: .....



9. State ONE other way in which the data could have been presented.

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(1 mark)

Analysis and Interpretation of Data

10. From your graph, identify

(a) the MOST common category of garbage found on the beach

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(1 mark)

(b) the LEAST common category of garbage found on the beach.

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(1 mark)

11. State THREE reasons why the category of garbage identified as most common in 10 (a) should be of concern.

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(3 marks)

12. Suggest TWO social and TWO economic effects of beach pollution.

Social effects

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Economic effects

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(4 marks)

Recommendations and Conclusion

13. Recommend FOUR ways in which the amount of garbage on beaches can be reduced.

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(4 marks)

14. State ONE conclusion that can be drawn from the research.

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(1 mark)

Total 40 marks

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

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CANDIDATE'S RECEIPT

INSTRUCTIONS TO CANDIDATE

1. **Fill in all the information requested clearly in capital letters.**

TEST CODE | 0 | 1 | 2 | 5 | 3 | 0 | 3 | 2 |

SUBJECT HUMAN AND SOCIAL BIOLOGY – Paper 032

PROFICIENCY GENERAL

REGISTRATION NUMBER | | | | | | | | | | |

FULL NAME _____
(BLOCK LETTERS)

SIGNATURE _____

DATE _____

2. **Ensure that this slip is detached by the Supervisor or Invigilator and given to you when you hand in this booklet.**

3. **Keep it in a safe place until you have received your results.**

INSTRUCTION TO SUPERVISOR/INVIGILATOR

Sign the declaration below, detach this slip and hand it to the candidate as his/her receipt for this booklet collected by you.

I hereby acknowledge receipt of the candidate's booklet for the examination stated above.

Signature _____
Supervisor/Invigilator

Date _____