TEST CODE **01230032**

FORM TP 2006105

MAY/JUNE 2006

CARIBBEAN EXAMINATIONS COUNCIL

SECONDARY EDUCATION CERTIFICATE EXAMINATION

INTEGRATED SCIENCE
(Single-award)

Paper 03/2

General Proficiency

PRACTICAL PAPER

2 $\frac{1}{2}$ hours

READ THE FOLLOWING DIRECTIONS CAREFULLY

1. Candidates MUST use this answer booklet when responding to the questions. For EACH question, write your answer in the space indicated and return the answer booklet at the end of the examination.

2. This test consists of THREE questions. You should attempt **ALL** questions.

3. Each question is divided into parts. Each part measures a particular skill. The allocation of marks to the skill within each part is given at the end of that part.

4. **Be sure to read ALL instructions completely and carefully before you begin the questions.**

N.B. **Candidates are allowed to have practical notebooks and/or any materials relevant to the practical examination.**

Candidates may be given additional materials without penalty.

If candidates lose time during the examination through no fault of their own, they must be awarded the equivalent time.

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1. Candidates are required to answer ALL questions.

FIVE solutions, A, B, C, D and E, are provided.

(a) Use Universal Indicator and the colour chart to investigate the pH of EACH of the five solutions. Record your observations in Table 1 below.

TABLE 1: pH VALUES OF SOLUTIONS

Solution	Indicator Colour	pH
A		
B		
C		
D		
E		

(12 marks)

(b) In Table 2, classify Solutions A, B, C, D and E as acidic, basic or neutral by writing the solution in the appropriate column.

TABLE 2: CLASSIFICATION OF SOLUTIONS A – E

Acidic	Basic	Neutral

(5 marks)

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2. (a) Describe how you would investigate the reactivity of metals using a dilute acid.

_____

_____

_____

_____

_____

(4 marks)

(b) You are provided with four metals,W, X, Y and Z.

(i) Using the method you described in Question 2 (a) above, compare the reactivity of these four metals. **(2 marks)**

(ii) Record your observations in Table 3.

TABLE 3: REACTIVITY OF METALS

Metal	Observations
W	
X	
Y	
Z	

(4 marks)

(c) Using your results in (b) above, write the metals in increasing order of reactivity from the **least to the most reactive**.

_____

(4 marks)

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3. You are provided with the following materials / substances:

- Benedict's solution
- Filter paper
- 6 test tubes
- Biüret reagent
- Half of an English apple
- 10 cm^3 of cream of wheat
- A piece of egg white

(a) In the space provided below, make an accurate drawing of the cut half of the English apple provided. Neatly label your drawing and state its title and magnification.

(10 marks)

(b) Perform food tests on the apple, cream of wheat and egg white provided. Record your observations in Table 4.

TABLE 4: FOOD TESTS ON ENGLISH APPLE, CREAM OF WHEAT AND EGG WHITE

	Observations		
Food Test	**Apple**	**Cream of Wheat**	**Egg White**
Add Benedict's solution to a small quantity of the food in a test tube and heat.			
Rub a small quantity of the food on a piece of filter paper.			
Add Biüret reagent to a small quantity of the food in a test tube.			

(9 marks)

(c) Based on your results in (b) above, state the nutrients that are contained in EACH of the three foods.

Apple: _____

Cream of wheat: _____

Egg white: _____

(4 marks)

END OF TEST