The Ambassadors College, Ota

S.S.S 2

SECOND TERM

HOLIDAY ASSIGNMENT

2023/2024 Academic Session

**Name:** _____

CIVIC EDUCATION

1. a. What is civil society?
    b. Discuss factors hindering effective functioning of civil society in Nigeria
2. a. Clearly expatiate the difference between A citizen and A Non-Citizen
    b. Under what condition can the rights of individual be denied in a State?

MATHEMATICS

1. Some Apples are weighed and the mass, m grams, of each apple is recorded.

    The table shows the results.

Mass (m grams)	$100 < m \leqslant 110$	$110 < m \leqslant 115$	$115 < m \leqslant 125$	$125 < m \leqslant 140$
Frequency	50	x	44	51

The Histogram shows some of the information from the table.

Mass (grams)
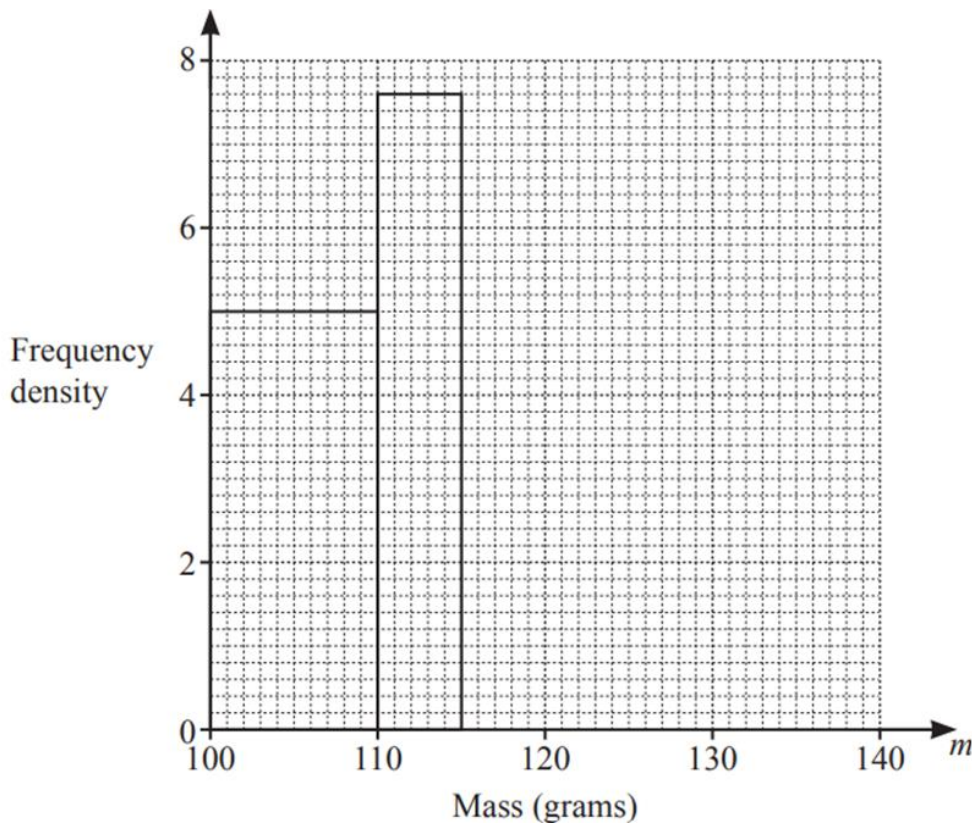
(a) Work out the value of x,

(b) Copy and Complete the Histogram.

2. The frequency distribution of the weight of 100 participants in a high jump competition is as shown below:

Weight (kg)	20-29	30-39	40-49	50-59	60-69	70-79
Number of participants	10	18	22	25	16	9

(a) Construct the cumulative frequency table.

(b) Draw the cumulative frequency curve.

(c) From the curve, estimate the:

    (i) medians   (ii) semi-interquartile range;

    (iii) 7th decile.   (iv) 85th percentile.

3. (a) Copy and complete the following table for multiplication modulo 11.

$\otimes$	1	5	9	10
1	1	5	9	10
5	5			
9	9			
10	10			

Use the table to

(i) evaluate $(9 \otimes 5) \otimes (10 \otimes 10)$;

(ii) find the truth set of:

    I. $10 \otimes m = 2$,

    II. $n \otimes n = 4$

(b) The table shows the distribution of marks scored by some students in a test.

Marks	1	2	3	4	5
Number of students	$m+2$	$m-1$	$2m-3$	$m+5$	$3m-4$

(a) If the mean mark is $3\frac{6}{25}$, find the value of m

(b) Find the:

    (i) interquartile range;

    (ii) total number of students.

HOLIDAY ASSIGNMENT

BIOLOGY (HONOURS)
1.   Define the term Antibody
2.   Outline how vaccination helps to prevent infection

BIOLOGY (REGULAR)
1.   What is Excretion
2.   List THREE excretory products on
    i.   Man   ii.   Plant

PHYSICS
Carefully study **Conduction through Liquids and Gases** in any Physics textbook.
(*New School Physics* **pages 410 – 420**). Then answer the questions below.

1. a. Explain electrolysis.
   b. Name two industrial applications of electrolysis.
   c. Classify the following substances as electrolytes and non-electrolytes: sugar solution, paraffin, salt solution and grape fruit juice.
2. a. In an electrolysis experiment, a cathode of mass 5g is found to weigh 5.01g after a current of 5A flows for 50 seconds. What is the electrochemical equivalent of the deposited substance?
   b. Calculate the time taken to deposit 1.56g of nickel using a current of 2.34A in a nickel-plating process. (Assume that 1.20g of nickel are deposited per ampere-hour.)
3. a. What is thermionic emission?
   b. State two similarities and two differences between thermionic emission and vaporization in liquids.
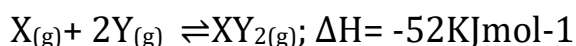
ENGLISH LANGUAGE
Write about 350 – 450 words one of the following questions.
1.   Write a description with the title 'The Nest'
2.   Describe a preparation you make for an important journey.

CHEMISTRY

Consider the following equilibrium reaction:

   $X_{(g)} + 2Y_{(g)} \rightleftharpoons XY_{2(g)}$; $\Delta H = -52 KJmol^{-1}$

State what happens to the yield of XY_2 when the temperature is increased.

Explain the effect of decrease in pressure on the equilibrium position.

State the effect of a catalyst on the:

(i)   position of equilibrium;   (ii)   activation energy