

NATIONAL EXAMINATIONS COUNCIL  
(NECO)

BASIC EDUCATION CERTIFICATE  
EXAMINATION  
(BECE)

**SYLLABUS**

FOR CANDIDATES IN UPPER BASIC  
(JSS1-3) IN NIGERIA UNDER THE  
UNIVERSAL BASIC EDUCATION (UBE)  
PROGRAMME.

***BECE***

***SECOND EDITION***

# **MATHEMATICS**

## **JSS1**

### **FIRST TERM**

#### **1. Whole Numbers**

Counting in:

- a. Millions and billions
- b. Trillions
- c. Quantitative reasoning

#### **2. Lowest Common Multiple (LCM)**

- a. LCM of whole numbers

#### **3. Highest Common Factor (HCF)**

- a. HCF of whole numbers
- b. Quantitative reasoning

#### **4. Counting in base two**

- a. Counting in groups of twos.

#### **5. Conversion of base 10 numerals to binary numbers.**

- a. Converting numbers 1-10 to base two.

#### **6. Fractions**

- a. Identifying equivalent fractions
- b. Quantitative aptitude reasoning
- c. Equivalent fractions
- d. Ordering of fractions
- e. Conversion of fractions to decimals and vice-versa
- f. Conversion of fraction to percentage and vice-versa

#### **7. Addition and Subtraction**

- a. Addition and subtraction of number and place values
- b. Use of numbers line
- c. Addition and subtraction of positive and negative integers
- d. Everyday application of positive and negative integers.

#### **8. Addition and Subtraction of Fractions**

- a. Addition and subtraction of fractions
- b. Word problems on addition and subtraction of fractions

### **SECOND TERM**

#### **1. Multiplication and Division of Fractions**

- a. Multiplication of fractions
- b. Division of fractions
- c. Word problems involving multiplication and divisions of fractions

**2. Estimation**

- a. Estimation of dimensions and distances
- b. Estimation of capacity and mass of objects
- c. Estimation of other things, e.g., age, time, etc.
- d. Quantitative reasoning involving estimation.

**3. Approximation**

- a. Approximating values of addition and subtraction
- b. Approximating results of multiplication and division
- c. Rounding off numbers to the nearest 10, 100 and 1000
- d. Application of approximation in everyday life
- e. Quantitative reasoning

**4. Addition of numbers in base 2 numerals**

- a. Addition of two or three 3-digits binary numbers

**5. Subtraction of numbers in base two numerals**

- a. Subtraction of two or three digits binary number

**6. Multiplication of numbers in base 2 numerals**

- a. Multiplication of two digits binary numbers

**7. Use of symbols**

- a. Open sentences
- b. Use of letters to represent symbols or shapes in open sentences
- c. Solving open sentences with two arithmetic operations
- d. Word problems involving use of symbols
- e. Quantitative aptitude

**8. Simplification of algebraic expressions**

- a. Like and unlike terms in algebraic expressions
- b. Identification of coefficients of terms of algebraic expressions
- c. Basic arithmetic operations applied to algebraic expressions of similar terms
- d. Collection and simplification of like and unlike terms in algebraic expressions
- e. Use of brackets
- f. Quantitative reasoning

## **THIRD TERM**

### **1. Simple Equation**

- a. Translation of word problems into equation and vice-versa.
- b. Solution of simple equations

### **2. Plane shapes**

- a. Similarities and differences between the following: square, rectangle, triangle, trapezium, parallelogram and circle.
- b. Perimeter of regular polygon, square, rectangle, triangle, trapezium, parallelogram, and circle
- c. Area of regular plane shapes such as squares, rectangles, parallelograms, etc.

### **3. Three dimensional figures**

- a. Basic properties of cubes and cuboids
- b. Basic properties of pyramids and cones
- c. Basic properties of cylinder and spheres
- d. Volume of cubes and cuboids

### **4. Construction**

- a. Construction of parallel and perpendicular lines
- b. Bisection of a given segment
- c. Construction of angles  $90^\circ$  and  $60^\circ$

### **5. Angles**

- a. Measurement of angles
- b. Identification and properties of
  - i. Vertically opposite
  - ii. Adjacent
  - iii. Alternate
  - iv. Corresponding angles
- c. Identification and properties of angles at a point and angles on a straight line

### **6. Need for statistics**

- a. Purpose of statistics
- b. Need for collecting data for planning purposes
- c. Collection of data

### **7. Data Collection**

- a. Collect data in class

## **8. Data presentation**

### **a. Median**