INDEX NO_____ SIGNATURE_____

UNIVERSITY OF GHANA

DEPARTMENT OF TEACHER EDUCATION
SCHOOL OF EDUCATION AND LEADERSHIP
COLLEGES OF EDUCATION
END OF YEAR THREE SEMESTER ONE EXAMINATIONS, 2022/2023
B.ED. PROGRAMME

COURSE CODE: TEUP 303
COURSE TITLE: TEACHING AND ASSESSING UPPER PRIMARY SCHOOL MATHEMATICS (INTERMEDIARY)

TIME ALLOWED: 2 HOURS 30 MINUTES

General Instruction: This paper is made up of two sections, **A** and **B**. Answer both sections on the answer booklet provided.

Section A

There are four options after each question, lettered A to D. Read each question carefully and write in the answer booklet provided the letter that corresponds with the correct or best option. Each question carries one mark **(1 mark).**

1. Which of the following activities helps upper primary pupils determine the total number of pupils in their class?

   A. Counting
   B. Grouping
   C. Matching
   D. Measurement

2. Mrs. David, a primary six teacher at Moon Light Academy, asked her pupils to rewrite 35 as a base three numeral. What answer do you think Mrs. David expects?

   A. 11_{three}
   B. 122_{three}
   C. 212_{three}
   D. 1022_{three}

Examiner: Dr. Awoniyi

3. What is the value of 4 in the number 423?

   A. Units
   B. Tens
   C. Hundreds
   D. Thousands

4. A sequence that follows a specific rule is referred to as mathematical_____.

   A. Abstraction
   B. Conceptualization
   C. Generalization
   D. Pattern

5. Issah, a primary four teacher, intends to teach his pupils the addition of six-digit numbers with renaming. Which of the following materials do you think is most appropriate to use?

   A. Abacus
   B. Bundles of sticks
   C. Cuisenaire rods
   D. Multi-Based Arithmetic Block

6. 525 is divisible by 15 because _____.

   A. 15 and 525 are divisible by 3.
   B. 525 and 15 are odd numbers.
   C. 525 is divisible by 15, 21, 25, and 35.
   D. 525 is divisible by 3 and 5.

7. Which of the following is NOT TRUE about the LCM and HCF of any two given numbers?

   A. The product of the LCM and HCF of the numbers is equivalent to their product.
   B. The Least Common Multiple is always greater than the Highest Common Factor.
   C. The Lowest Common Multiple is always greater than both numbers.
   D. The Highest Common Factor is either less than or equal to the smaller number.

8. Which one of the following may NOT be considered the main objective of assessment?
   A. Find out what students know and can do.
   B. Identify the best-performing students.
   C. Identify individual differences and achievement.
   D. Know the strength and weaknesses of students.

9. Which of the following numbers has 6 as a hundredth?

A. 16.1643
B. 364. 3561
C. 651. 6413
D. 6543. 4516

10. 9 x 6 can be interpreted to mean _____.

A. 6 groups and 9 objects
B. 6 groups of 9 objects
C. 9 groups and 6 objects
D. 9 groups of 6 objects

11. Multiplication and division are _____operations.

A. complementary
B. identity
C. inverse
D. supplementary

12. Front End, as a mental strategy for multiplying numbers, uses which of the following properties of operations on numbers?

A. Associative
B. Closure
C. Commutative
D. Distributive

13. Fractions that look different but show exactly the same amount are _____fractions.

A. common
B. decimal
C. equivalent
D. proper

14. The process of deriving a fraction's simplest form is _____.

A. dividing the numerator and denominator by their highest common factor
B. finding the average of the numerator and denominator
C. multiplying the numerator and denominator by the same number
D. multiplying the numerator and denominator by their least common multiple

15. Which of the following rules describes the sequence 2, 4, 10, 28, 82,...?

A. Cube the previous term and subtract 4.
B. Multiply the previous term by 2 and add 2.
C. Multiply the previous term by 3 and subtract 2.
D. Square the previous term and add half the number.

16. Two bulbs blink every 12 seconds and every 16 seconds. If they blink together, after how many seconds will they blink together again?

A. 24
B. 28
C. 32
D. 48

17. When a primary school pupil divides two numbers, the result obtained is called _____.

A. difference
B. dividend
C. product
D. quotient

18. Mr. Abdul, a primary four teacher at Gateway Academy, wants to teach the addition of fractions. As a resource person, which of the following materials will you NOT recommend for use?

A. Counters
B. Cuisenaire rods
C. Fraction chart
D. Strips of paper

19. 168 is divisible by 3 because the_____.

A. sum of the three digits is divisible by the number 3
B. difference between 8 and 6 plus 1 gives a total of 3
C. last digit is an even number just as the first two digits
D. double the last digit (8) gives the first two digits

20. Which of the following forms of assessment is summative in nature?

A. Assessment as learning.
B. Assessment for learning.
C. Assessment in learning.
D. Assessment of learning.

21. A scaled-down teaching encounter in terms of class size and time is referred to as _____teaching.

A. diagnostic
B. macro
C. micro
D. small class-size

22. Which of the following is a solid shape?

A. Circle
B. Cone
C. Rectangle
D. Trapezium

23. Which of these 3-dimensional shapes has no vertices?

A. Cone
B. Cuboid
C. Pyramid
D. Sphere

24. Which of the following is the most appropriate arbitrary unit for measuring the length of the classroom?

A. Eraser
B. Handspan
C. Pencil
D. Strides

25. The probability that Kwame will come to school today is $\frac{3}{5}$. What is the probability that he will not come to school?

A. $\frac{2}{5}$
B. $\frac{3}{5}$
C. $\frac{5}{3}$
D. $\frac{5}{2}$

Section B [75 Marks]

Answer any **THREE** questions in this Section in the answer booklet provided.

In each question, show work in the answer booklet provided, including the answer.

Note: ***If you answer more than three questions, only the first three questions will be marked.***

1 (a) Mention **TWO** contextual examples you would use to help your primary four pupils interpret positive numbers and negative numbers. **[4 Marks]**

(b) Using a named concrete material, describe an activity you would use to help a primary four pupil determine the factors of 12. **[12 Marks]**

(c) What is place value? **[3 Marks]**

(d) Mention any **THREE** reasons why pupils must be taught the concept of place value. **[6 Marks]**

2 (a) What is measurement? **[3 Marks]**

(b) Mention any **TWO** attributes that can be measured. **[4 Marks]**

(c) Describe an activity you would use to help a primary five pupil determine the perimeter of a rectangle. **[6 Marks]**

(d) Explain any **THREE** reasons why mathematics teachers assess their pupils at the upper primary level. **[12 Marks]**

3 (a) Describe an activity you would use to help your pupils deduce that $6 \times 5 = 5 \times 6$ **[5 Marks]**

(b) With an example for each, explain any **FOUR** mental strategies you would use to help your pupils multiply multi-digit numbers efficiently. **[20 Marks]**

4 (a) Using the test for divisibility, determine whether or not 162 is divisible by 18. **[12 Marks]**

(b) Give **TWO** reasons why you think it is important to teach upper primary pupils investigations with numbers. **[4 Marks]**

(c) Mention and explain any **THREE** roles of technology in the teaching and learning of mathematics at the upper primary level. **[9 Marks]**

5 Madam Turkson, a primary five teacher, collected the following data as the scores of her pupils in the end-of-term examination for mathematics. She intends to represent this data using a stem-and-leaf plot.

23	45	43	72	23	92	34
25	34	54	78	24	91	23
78	32	67	76	26	45	18
23	23	68	73	91	33	55
89	34	73	53	88	31	64

(a) Determine the stem and leaf plot for the data. **[10 Marks]**

(b) Describe how Madam Turkson would use the stem and leaf plot to help her pupils determine:

i. The range. **[3 Marks]**

ii. The modal score. **[3 Marks]**

iii. The median score. **[3 Marks]**

(c) A primary four pupil says that $\frac{1}{7}$ is greater than $\frac{1}{6}$ because 7 is greater than 6. **[6 Marks]**
Describe an activity you would use to help this pupil determine appropriately which fraction is greater.