

STUDENT'S ID NO: _____ SIGNATURE: _____



UNIVERSITY OF GHANA

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DEPARTMENT OF TEACHER EDUCATION
SCHOOL OF EDUCATION AND LEADERSHIP
COLLEGES OF EDUCATION

END OF SEMESTER TWO EXAMINATIONS FOR LEVEL 300, 2021/2022
B.ED. PROGRAMME

COURSE CODE: TEUP 304

COURSE TITLE: TEACHING AND ASSESSING MATHEMATICS FOR UPPER
PRIMARY (ADVANCED)

Instruction: Answer all questions in Section A and any three questions in Section B.

Time: 2 hours

SECTION A

[25 Marks]

Answer all the questions in this section.

1. The Hindu–Arabics numerals are sometimes referred to as the _____
 - A. decimal numerals
 - B. positional numerals
 - C. directional numerals
 - D. number system

2. You just facilitated the concept of Number Bases in your Upper Primary learners. In the course of your facilitation, you asked them to convert **25tens** to a numeral in base five. What is your expectation from the learners?
 - A. 50_{five}
 - B. 100_{five}
 - C. 10_{five}
 - D. 440_{five}

3. Which of the following principles was used in Babylonian numeration system?
- A. Algorithm
 - B. Grouping
 - C. Positioning
 - D. Subtractive
4. Which of the people below used the base sixty numeration system?
- A. Babylonians
 - B. Egyptians
 - C. Ghanaians
 - D. Romans
5. Which of the polygon is the basic unit in measuring the sum of interior angles of a hexagon?
- A. Nonagon
 - B. Pentagon
 - C. Quadrilateral
 - D. Triangle.
6. Which of the following statements is **not true** about division as an arithmetic operation?
- A. Inverse multiplication
 - B. Partitioning
 - C. Repeated subtraction
 - D. Sharing

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7. In the use of multi-base block, 10 of the flats gives a block, how many cubes makes a block?
 - A. 1
 - B. 10
 - C. 100
 - D. 1000
8. Another name for base two numerals is _____
 - A. binary numerals
 - B. decimal numerals
 - C. octal numerals
 - D. pairwise numerals
9. How many symbols was the Babylonian numeration system?
 - A. 2
 - B. 3
 - C. 5
 - D. 7
10. Your learner in the Upper Primary class added or multiplied three whole numbers and realised that the order of the operation does not affect the result. What property of operation are you likely to expect from the learner as her conclusion?
 - A. Associative property
 - B. Commutative property
 - C. Distributive property
 - D. Identity property
11. Which number has a 6 in the thousandths place?
 - A. 0.2376
 - B. 0.65934
 - C. 0.8769
 - D. 0.0675

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12. With the idea of place value and the symbol for zero, zero serve the following purpose except as _____

A. a number for no quantity

B. a place value holder

C. a whole number

D. one of the counting numbers.

13. Given that, $a + b = c$, the 'a' and 'b' are called the _____

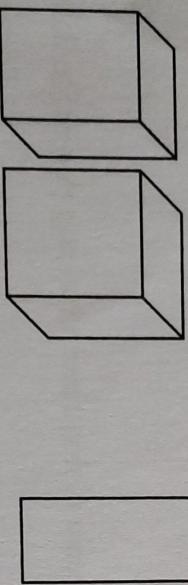
A. addends

B. factors

C. products

D. sum

14. A base two numerals was represented with the Dienes material as shown below



What numeral is that?

A. 21

B. 111

C. 1001

D. 10010

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15. Which of the following fractions is not equivalent to $\frac{3}{4}$?

- A. $\frac{75}{100}$
- B. $\frac{30}{40}$
- C. $\frac{9}{16}$
- D. $\frac{9}{12}$

16. Which of the following ratios is equal to $1\frac{1}{3}:2$?

- A. $2:5$
- B. $3:5$
- C. $4:9$
- D. $5:9$

17. In decimal fraction $0.\dot{3}$ shows that _____.

- A. 3 recurring
- B. 3 does not recur
- C. 3 is a static number.
- D. 3 changes every time.

18. In using the Cuisenaire rods, the number nine (9) has been denoted by the colour _____

- A. Blue
- B. Orange
- C. Red
- D. Brown

19. Which of the following mental strategies is used in subtraction with renaming?

- A. Borrowing
- B. Making 10
- C. Skip count
- D. Splitting into factors

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20. Order the following fractions in ascending order; a. $\frac{3}{4}$, b. $\frac{5}{6}$, c. $\frac{4}{9}$, d. $\frac{3}{2}$

- A. a, b, c, d
- B. c, a, b, d
- C. c, b, a, d
- D. d, c, b, a

21. Tony spent $\frac{1}{2}$ of his pocket money on airtime. He spent $\frac{1}{6}$ of his money on course books.

What fraction of his pocket money did Tony spend together?

- A. $\frac{1}{2}$
- B. $\frac{2}{3}$
- C. $\frac{1}{4}$
- D. $\frac{4}{6}$

22. All the following points are the strength of micro lessons except

- A. It help pre-service teachers have confidence in themselves.
- B. It enhances their delivery of lessons.
- C. Self-induction is always excellent among them.
- D. It is tedious practicing it since that is the first time.

23. Fractions whose values are less than one (1) are termed _____

- A. mixed fractions.
- B. improper fractions.
- C. reduced fractions.
- D. proper fractions.

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24. What is the relationship between the volume of a cylinder and the volume of a cone?

A. The volume of a cone is $\frac{1}{3}$ of the volume of a cylinder.

B. The volume of a cylinder is $\frac{1}{3}$ of the volume of a cone.

C. The volume of a cylinder and the cone are the same.

D. The volume of a cone is $\frac{1}{4}$ of the volume of a cylinder.

25. In the standard base mathematics curriculum, there are only

A. 5 strands.

B. 20 strands.

C. 4 strands.

D. 199 strands.

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SECTION B

[75 Marks]

Answer any three questions in this section.

- 1a. Using a named TLM how would you guide basic 4 pupils to model $15 + 26$. Show diagrams. [8 Marks]
- 1b. With a named TLM explain how you would guide a basic 5 pupils to convert 89_{10} to base five. [8 Marks]
- 1c. In the measurement of length explain [9 Marks]
- Direct comparison of length.
 - Indirect comparison of length
- iii, why the introduction of standard unit of measurement of length

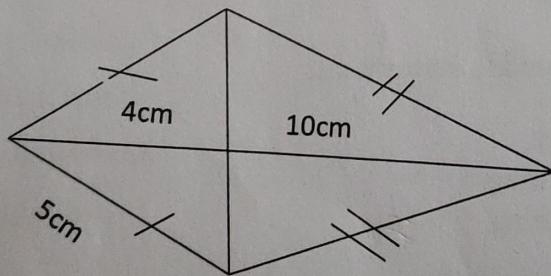
2a. Copy and complete the following table in base five. [8 Marks]

Numbers	Blocks	Flats	Longs	Units
23				
57				
135				
274				

- 2b. Write down the place and value of the digit 5 in the numeral 23,514. [4 Marks]
- 2c. A Primary 5 pupil wrote thirty-seven as 307. [8 Marks]
- What concept is the learner lacking?
 - Use a named material to remedy the situation.

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- 2d. How will you teach $4 \div \frac{1}{2}$ to a P5 child using concrete material? [5 Marks]
- 3a. Explain the underlined word in the below statements [6 Marks]
- i. Prisms have uniform cross section
 - ii. Vertically opposite angles area equal
- 3b. State **two** (2) differences between volume and capacity [4 Marks]
- 3c. Identify one arbitrary unit for the following measurements [6 Marks]
- i. Length
 - ii. Capacity
 - iii. Area
- 3d. Calculate the area of the Kite below [9 Marks]



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- 4a Explain the following concepts in Micro lesson planning: [10 Marks]
- i. Plan
 - ii. Teach
 - iii. Feedback
 - iv. Re-plan
 - v. Re-teach
- 4b With the help of a diagram, explain the concept of a perimeter of a rectangle to your upper primary learners [6 Marks]
- 4c Fractions include many meanings such as: [9 Marks]
- i. Part-whole comparison
 - ii Division,
 - iii Ratio.
- With the aid of a diagram and examples, where appropriate, explain each construct of a fraction to your learners in the Upper Primary four class
- 5a. Outline three differences between the objective based JHS curriculum and the Standard based curriculum [9 marks]
- 5b. Explain the following terms as used in assessment: [6 marks]
- i. assessment as learning
 - ii. assessment for learning
 - iii. assessment of learning
- 5c. Mention and explain five questioning skills you will adopt as good practices in teaching and learning of mathematics. [10 marks]