



UNIVERSITY OF GHANA
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DEPARTMENT OF TEACHER EDUCATION
SCHOOL OF EDUCATION AND LEADERSHIP
COLLEGE OF EDUCATION
END OF YEAR TWO SEMESTER TWO EXAMINATIONS, 2023
B.ED. PROGRAMME

COURSE CODE: TEJS 228

COURSE TITLE: TEACHING AND ASSESSING JUNIOR HIGH SCHOOL
MATHEMATICS (INTRODUCTORY)

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

Time: 2 hours

SECTION A

[25 Marks]

Answer all the questions in this section.

1. The curriculum has general aims, specific aims, and core competencies. What do you call the skills, and abilities that enable one to apply mathematics in real life, or practical?
 - A. General aims
 - B. Specific aims
 - C. Core competencies
 - D. Teaching assessment

2. One of the following is used to evaluate, measure, and document the academic readiness, learning process, and skill acquisition _____
 - A. Profile dimensions
 - B. Table of specifications
 - C. Assessment tools
 - D. Indicators

3. In differentiating general aims, specific aims, and core competencies, how do you describe the one that appreciates the usefulness, power, and beauty of mathematics?
 - A. General aims
 - B. Specific aims
 - C. Core competencies
 - D. Teaching assessment

4. The term “number” has different meanings/ uses. Which of the following is NOT one of the uses?
- A. count
 - B. measure
 - C. label
 - D. form
5. A central aspect of this curriculum is the profile of learning behavior dimensions that should be the basis for instruction and assessment. Which profile dimension tests the ability of the learner to translate, rewrite, paraphrase, give examples, generalize, estimate or predict consequences based on a trend?
- A. Analysis
 - B. Application
 - C. Comprehension
 - D. Creation
6. The curriculum has been designed using unique features to make referencing easy.
How do you describe the unique features of the topics the content is organized?
- A. The strands
 - B. Sub-strands
 - C. Content standards
 - D. Indicators
7. In the unique features for making references, as used in the standard-based curriculum, what name is given to a clear outcome or milestone that learners must exhibit each year to meet the curriculum's expectation?
- A. Strands
 - B. Sub-strands
 - C. Content standards
 - D. Indicators
8. The foundations of the curriculum based on NTECF strategy, which one deals with how learning should be organized in a step-by-step process for more emphasis?
- A. Behaviourism
 - B. Cognitivism
 - C. Constructivism
 - D. Connectionism curriculum,

9. The ability to understand, judge, do, and use mathematics in a variety of intra- and extra-mathematical contexts and situations in which mathematics plays or could play a role is called _____
- aim.
 - competency.
 - objective.
 - Skill.
10. The general goal of a standards-based and objective-based curriculum is to ensure that students acquire relevant and essential knowledge and skills. Which one of the following is a similarity between both curricula?
- Both are aimed at using the same resources to reach a common goal.
 - Both are aimed at helping the learners to reach a common goal.
 - Both set benchmarks as guides to achieve a common goal.
 - Both assess the learners at a point to achieve a common goal.
- I and II only
 - I and III only
 - II and III only
 - II and IV only
11. This type of curriculum sets the benchmark where teachers and students all go all-out in the teaching and learning process to reach that standard. Which type of curriculum is this?
- Objective-based curriculum
 - Standards-based curriculum
 - SBC-based curriculum
 - National-based curriculum
12. In the many variations of principles, formulas, numbers and numerals, when do we talk of whether objects are less or more?
- Comparing and ordering
 - Even and odd numbers
 - Prime and composite
 - Multiples and factors

13. In teaching the number system, you have to start from one stage to another with the use of teaching and learning materials. Why are teaching and learning materials important?
- A. To enable students to manufacture them.
 - B. To enable students to design them.
 - C. To enable students to apply them.
 - D. To enable students to use them.
14. Assessment may be formative, summative, diagnostic, or evaluative depending on its purpose. The following modes serve as Assessment for Learning EXCEPT _____
- A. End of term examinations
 - B. Class exercises.
 - C. Class tests (written, oral, aural, and/or practical).
 - D. Class Assessment Task (CAT).
15. In the mode of assessment, the following tools form part of Assessment as Learning for mathematics EXCEPT _____
- A. portfolio
 - B. journal entries.
 - C. project work
 - D. end-of-year exam.
16. A good assessment tool for mathematics teaching and learning must contain the following characteristics EXCEPT _____
- A. reliability
 - B. validity.
 - C. objectivity
 - D. Standardization
17. A pupil expressed 6 and 8 as a product of its prime factors. That is $6 = 2 \times 3$, $8 = 2 \times 2 \times 2 = 2^3$. She then found the product 3 and 2^3 . What does the product 3×2^3 represent?
- A. The least multiple of 6
 - B. The least common multiple of 6 and 8
 - C. The highest common factor of 6 and 8
 - D. The largest common multiple of 6 and 8

18. A teacher described the shaded portion of the diagram below as one-third. Which model of fraction he she using?



- A. Part-whole
- B. Portion
- C. Rate
- D. Ratio

19. A Basic school learner wishes to find the place value of the digit '5' in the number 3.05 which one of these would she choose?

- A. Five-hundredths
- B. Five-tenths
- C. Fifths
- D. Zero-five

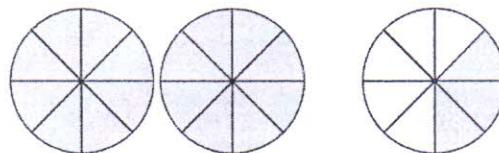
20. Which of these numbers shows seven thousandths?

- A. 7000
- B. 0.7
- C. 0.07
- D. 0.007

21. The difference between the two numbers is 48. The ratio of the two numbers is 7:3. What are the two numbers?

- A. (84, 36)
- B. (48, 63)
- C. (12,7)
- D. (8, 7)

22. Which of the following fractions represents the shaded portion of the figures below?



- A. $\frac{3}{8}$
- B. $\frac{16}{8}$
- C. $\frac{19}{8}$
- D. $\frac{24}{8}$

23. A basic school learner was asked to rewrite 98674321 in four significant figures.
What answer do you expect from the pupil?
- A. 5321000
 - B. 9867000
 - C. 98760000
 - D. 98670000
24. 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
25. The ultimate aim of assessing the numeracy skills of your learners is to _____
- A. compare their performance.
 - B. grade their performance.
 - C. improve teaching and learning.
 - D. report students' performance to parents.

SECTION B

Answer THREE questions from this section.

- 1a. Core competencies in the Basic School mathematics **12marks**
curriculum are the fundamental competencies of set of skills
that mathematics teachers at all levels should strive to instill
in their students. In NOT less than **two** sentences, briefly
explain any **four (4)** competencies enshrined in the Basic
school curriculum
- 1b. How will you guide your Basic school learner to find the sum **8marks**
 $\text{of } \frac{2}{5} \text{ and } \frac{1}{4}$ using Cuisenaire's rods?
- 1c. Explain the term microteaching **5marks**
- 2a. Teachers are required to utilize base five materials, in **20marks**
facilitating learners' addition and subtraction strategies. In not
more than five steps show how you would use an identified
base five material to teach:
(i) $32_{\text{five}} + 14_{\text{five}}$
(ii) $41_{\text{five}} - 22_{\text{five}}$
- 2b. Explain the term an assessment tool, giving three examples. **5marks**
- 3a. How would you explain to a JHS pupil that 0.3 and $0.\dot{3}$ do not **11marks**
represent the same decimal fraction?
- 3b. State and explain **any three (3)** characteristics of a good **9marks**
assessment tool
- 3c. Write a story problem depicting $\frac{3}{4} \div 5$ **5marks**
- 4a. With an example each, explain the following properties on the **15marks**
set of integers:

STUDENT'S ID NO: _____ SIGNATURE: _____

- i. Closure property of addition of integers
 - ii. Commutative property of multiplication
 - iii. Distributive property of multiplication over subtraction
- 4b. Describe how you guide a Basic school learner to identify the **10marks** following in these set of numbers: 7, 9, 13, 15, 17, 21:
- (i) Odd numbers
 - (ii) Prime numbers
- 5 You have been assigned the topic 'Addition of Fractions' **25marks** from the JHS curriculum to present on during the micro-teaching period of TEJS 228. Write a detailed lesson notes on what you will be teaching.