

JANUARY 2023
EMA 211SW
CURRICULUM STUDIES IN MATHEMATICS
EDUCATION
1 HOUR 30 MINUTES

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UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH
INSTITUTE OF EDUCATION

FIVE-SEMESTER BACHELOR OF EDUCATION (SANDWICH) PROGRAMME
LEVEL 300, END-OF-SECOND SEMESTER EXAMINATIONS, JANUARY 2023

5TH JANUARY 2023

CURRICULUM STUDIES IN
MATHEMATICS EDUCATION

1:30 PM - 3:00 PM

SECTION B
(40 MARKS)

Answer only TWO questions from this Section for 20 marks each.

1.

- a. Explain the difference between the “intended and “implemented” curriculum”.
Give an example in each case. [4 marks]
- b. One of the aims of the mathematics syllabus is “to help children appreciate the value of mathematics and its usefulness to them”. Explain, with an illustrative example of a topic from either the JHS or SHS mathematics syllabus, what this statement means. [5 marks]
- c. List the **four-step** process outlined by Tyler when planning the curriculum. [8 marks]
- d. Explain what is meant by ‘Sequencing of Subject Matter’. [3 marks]

2.

- a. Explain **three** characteristics of a good mathematical task. [9 marks]
- b. One of the topics in both the JHS and SHS mathematics syllabus is Sets. Indicate aspects of Sets to be taught under the following headings, **giving suitable explanations/illustrations in each case:**
 - i. Concepts; [5 marks]
 - ii. Generalisations. [6marks]

- 3.
- a. Differentiate between **subject** and **subject matter** in mathematics giving one illustrative example each. [4marks]
 - b. Explain any **four** factors that affect the selection of school mathematics contents. [8 marks]
 - c. Sequence the following topics: Sets, Length and Area, Fractions, Numbers and Numerals, providing justification for your overall plan. [8 marks]
- 4.
- a. Explain **three** questions that any mathematics teacher should pose when preparing to teach any mathematics topic. [7 marks]
 - b. A teacher is preparing to teach a lesson on the topic "Functions". Identify any **four** representations that this teacher can use in delivering the lesson. [4 marks]
 - c. Explain why a task can be described as having multiple entry and exit points. [4 marks]
 - d. Explain, with an illustrative example, what is meant by **Practical Barriers** to the development of the school mathematics curriculum. [5 marks]

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