

JUNE 2023  
EMA 208SW  
METHODS OF TEACHING HIGH SCHOOL  
MATHEMATICS  
1 HOUR 30 MINUTES

Candidate's Index Number
IE/MAT/515/22/0076
Signature: <i>[Handwritten Signature]</i>

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 400, END-OF-FIRST SEMESTER EXAMINATIONS, JUNE 2023

20<sup>TH</sup> JUNE 2023

METHODS OF TEACHING HIGH SCHOOL  
MATHEMATICS

4:30 PM - 6:00 PM

SECTION B  
(40 MARKS)

Answer any TWO questions from this Section.

1.
  - a. Explain the **three** main factors of effective teaching identified by Ryan (1960) and Colleagues. Your explanation should identify the corresponding contrast of each factor. **12 marks**
  - b.
    - i. Distinguish between inductive and deductive uses of examples during mathematics instruction. **4 marks**
    - ii. Explain **two** guidelines for effective use of examples during mathematics instruction. **4 marks**
  
2.
  - a. Write a suitable specific instructional objective for each of the following senior high school Core Mathematics contents:
    - i. Three set problems using Venn diagrams, under Sets and Operations on sets (Unit 1.1). **3 marks**
    - ii. Tangent and cosine of acute angles, under Trigonometry (Unit 2.11). **3 marks**
  - b. Explain the main features, **one** advantage and **one** disadvantage of each of the following:
    - i. Direct teaching method; **7 marks**
    - ii. Indirect teaching method. **7 marks**

3.

- a.
- i. What is meant by perpendicular bisector of line BC? **2 marks**
  - ii. Describe the steps involved in constructing a perpendicular bisector of line BC (8cm) long using a ruler and a pair of compasses only. **8 marks**
- b. Explain **five** reasons for encouraging mathematics teachers to write lesson notes. **10 marks**

4.

- a. Explain **five** benefits of employing games in a mathematics classroom. **10 marks**
- b.
- i. What is meant by focusing behaviour as a stimulus variation technique? **2 marks**
  - ii. Explain the **two** main types of focusing behaviour and the specific purpose each serves. **8 marks**