UNIVERSITY OF JOHANNESBURG
FACULTY OF EDUCATION
NOVEMBER EXAMINATION 2014

PROGRAMME: B Ed Hons

MODULE: CURRENT ISSUES IN MATHEMATICS EDUCATION

CODE: CIM0027

TIME: 3 hours

MARKS: 100

EXAMINER: Dr ED Spangenberg

MODERATOR: Prof C Vermeulen (CPUT)

(This paper consists of 2 pages)

INSTRUCTIONS

Read the following instructions carefully before answering the questions:

1. This question paper consists of three questions.

2. Answer **ALL** the questions.

3. Number the answers correctly according to the numbering system used in this question paper.

4. Write legibly and present your work neatly.

5. Read the questions carefully before answering them.

6. Questions may be answered in English or Afrikaans.

QUESTION 1

Critically reflect on constructivism in the teaching and learning of Mathematics. How well do you think a constructivist teaching model fits with the most important theories of learning? Address the following in your answer:

1.1 The roles of the teacher. (12)

1.2 Characteristics of a constructivist classroom. (4)

1.3 Effective teaching and learning in Mathematics. (17)

1.4 Concept formation in Mathematics. (7)

(40)

QUESTION 2

Critically reflect on test items in Mathematics Education. Address the following in your answer:

2.1	What are test items?	(2)
2.2	Discuss the development of test items in Mathematics.	(3)
2.3	Define the following terms:	

      2.3.1 Item development guides;   (8)

      2.3.2 Item response guide;   (8)

      2.3.3 Item complexity;   (4)

      2.3.4 Item validity and reliability;   (8)

      2.3.5 Cognitive complexity of items; and   (2)

      2.3.6 Item formats.   (5)

(40)

QUESTION 3

In this module we looked at Cultural-Historical Activity Theory (CHAT) as a lens to view and interpret Mathematics teaching and learning in the classroom. Write an essay of 2 pages (± 600 words), in which you reflect on CHAT as lens. In your answer, you should refer to the contributions of, amongst others, Vygotsky and Engeström. **(20)**

TOTAL: 100

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