DRAFT EXAMINATION

POSTGRADUATE DIPLOMA IN EDUCATION

ECG: 4151 : MATHEMATICS SUBJECT METHODS

JULY – NOV 2022 SEMESTER

MAIN PAPER

QUESTION ONE

a) By use of a secondary school mathematics concept distinguish between confirmatory inquiry based teaching and structured inquiry based teaching.

(6 Marks)

b) Discuss any **THREE** reasons for assessing learners in mathematics. **(4 Marks)**

c) Highlight **THREE** criticisms that were leveled against modern Mathematics which lead to its death through a presidential directive in 1981 **(6 Marks)**

d) Describe how you can use models to demonstrate to Form one learners that the circumference of a circle is given by πD. **(4 Marks)**

e) Explain briefly **TWO** limitations to the KCSE syllabus in mathematics

(4 Marks)

f) Discuss **THREE** ways in which a teacher can eliminate gender biasness and inequalities during mathematics lesson. **(6 Marks)**

QUESTION TWO (20 Marks)

a) Discuss the importance of micro-teaching to a student teacher **(10 Marks)**

b) Define a lesson plan and justify any **FOUR** factors teachers need to consider when writing a lesson plan to be used in the teaching and learning of mathematics. **(10 Marks)**

QUESTION THREE (20 Marks)

a) Examine any **FIVE** emerging issues in mathematics education **(10 Marks)**

a) Discuss **FIVE** approaches that a teacher can apply to effectively teach secondary school mathematics. **(10 Marks)**

QUESTION FOUR (20 Marks)

a) Discuss **FIVE** reasons why a teacher of mathematics should be well versed with the psychology of learning. **(10 Marks)**

b) Mathematics is one of the subjects with dismal performance at KCSE.

Highlight some of the reasons of this situation. **(10 Marks)**

QUESTION FIVE

a) Suggest and discuss **FIVE** ways of helping learners cope with problem of mathematics anxiety. **(10 Marks)**

b) Briefly discuss three modes of representation according to Jerome Brunner's and give the implications of his work to Mathematics curriculum. **(10 Marks)**