



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)

University Examinations 2015/2016

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND CURRICULUM STUDIES

FIRST SEMESTER EXAMINATION FOR DEGREE IN BACHELOR OF EDUCATION

ECE 209: STATISTICS, TEST AND MEASUREMENT

Date: SCHOOLBASED

Time:

INSTRUCTIONS

Answer question ONE and any other TWO questions

QUESTION ONE

- a) Classify each of the following as nominal, ordinal, interval or ratio level of measurement
- i) A students ID number
 - ii) Proficiency in English graded into categories of good, fair, poor.
 - iii) The score you obtained in a statistics test.
 - iv) The weight of each of the students in MUC
 - v) The ranking of counties after they have been designated as Excellent, Best, Satisfactory and Worst in terms of development. (5 marks)
- b) Distinguish between the following terms as used in statistics
- i) Positively skewed distribution and Negatively skewed distribution
 - ii) A sample and a Population
 - iii) Inferential statistics and Descriptive statistics
 - iv) An Ogive curve and a Frequency table
 - v) Unimodal distribution and Bimodal distribution. (10 marks)

- c) i) Explain two differences between norm-referenced and criterion-referenced tests (4 marks)
- ii) Discuss two factors that a teacher may have to consider when selecting a technique for testing learners. (4 marks)
- d) Item analysis results showed that 43 out of 60 students in the upper group answered an item correctly and 23 out of 60 students in the lower group answered it correctly. Comment on the quality of the item based on the above information. (4 marks)
- e) Identify and explain two factors that may influence the reliability of teacher made tests. (4 marks)

QUESTION TWO

- a) Differentiate between the following terms as used in measurement and evaluation:
- i) Measurement and evaluation;
- ii) Achievement test and aptitude test;
- iii) Formative evaluation and summative evaluation;
- iv) Concurrent validity and predictive validity;
- v) test-retest and split-half methods of estimating reliability. (10 marks)
- b) Using two points in each, explain how the following stake holders may benefit from the teaching and learning situation;
- i) Administrators;
- ii) Students;
- iii) Teachers;
- iv) Guidance and Counselors
- v) Parents. (10 marks)

QUESTION THREE

- a) The data below shows a sample of scores obtained on a form one Mathematics test:
- 11, 18, 16, 15, 13, 18, 15, 16, 15, 17.
- Compute the following measures of
- i) central tendency
- ii) Mode; (1 mark)

- iii) Median; (2 marks)
- iv) Mean. (2 marks)

- b) Variability
 - i) Range; (1 mark)
 - ii) Mean deviation; (3 marks)
 - iii) Standard deviation. (3 marks)
- c) Using the measures of central tendency obtained in (a) above, describe fully in two points each:
 - i) The shape of the distribution; (4 marks)
 - ii) the performance of the students in the test. (4 marks)

QUESTION FOUR

- a) State four factors that may affect the choice of an item format(or question type) in your class test. (4 marks)
- b) Explain in two points each, the importance of:
 - i) Graphical presentation of data;
 - ii) Graphs in descriptive statistics. (4 marks)
- c) Explain the effect of each of the following on the quality of a test item
 - i) Use of a test specifications table;
 - ii) Small or large number of test items in a test;
 - iii) Mixing difficulty, moderate, and easy items in an appropriate proportion when preparing a test. (6 marks)
- d) State four important roles that evaluation plays in a nation's educational program. (4 marks)

QUESTION FIVE

- a) Explain the term 'report form' as used in teaching and learning and state its importance to the:
- i) Student;
 - ii) Teacher;
 - iii) Parent. (6 marks)
- b) Using an appropriate example, illustrate how item difficulty differs from item discrimination for a given test item. (4 marks)
- c) Discuss five functions of Kenya Certificate of Secondary Education (KCSE) examination in the Kenya education system. (10 marks)