



MACHAKOS UNIVERSITY

University Examinations 2019/2020 Academic Year

SCHOOL OF EDUCATION

DEPARTMENT OF EARLY CHILDHOOD EDUCATION

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION (EARLY CHILDHOOD EDUCATION)

ECE 209: STATISTICS, TESTS AND MEASUREMENTS

DATE: 2/12/2019

TIME: 11.00-1.00 PM

INSTRUCTIONS: answer question one and any other two questions

QUESTION ONE (30 MARKS)

- a) Distinguish between the following terms as used in statistics:
- Positively skewed distribution and negatively skewed distribution;
 - A sample and a Population;
 - Inferential statistics and Descriptive statistics;
 - An Ogive and a Frequency table;
 - Unimodal distribution and bimodal distribution. (10 marks)
- b) Describe each of the different types of test formats that may be used in class tests(10 marks)
- c) State the scale (or level) of measurement and the type of variable (continuous or discrete)
- In each of the following measures:
- Temperature in degrees Celsius
 - Volume of milk containers in cubic centimeters from Zero to 200 cubic centimeters.
 - Desks labeled 10-25 at an ECE Centre .
 - Tutorial Fellows, lecturer, Senior Lecturer, Associate Professor and Professor
 - The weights of all the PPI pupils in Dara School. (10 marks)

QUESTION TWO (20 MARKS)

- a) Discuss the effects of the following factors on the reliability of a test (10 marks)
- Speed
 - Test difficulty
 - Group homogeneity
 - Test length
 - Subjective scoring
- b) Explain two ways that each of the following stake holders may benefit from the teaching and learning situation:
- Educational administrators;
 - Students;
 - Teachers;
 - Guidance and Counselors in schools ;
 - Parents.
- (10 marks)

QUESTION THREE (20 MARKS)

- a) Distinguish between the following terms:
- Parameter and statistic
 - Reliability and Validity of a test
 - Histogram and frequency polygon
 - Measurement and evaluation
 - Test and Examination
- (10 marks)
- b) Outline four characteristics of a normal Curve (4 marks)
- c) Discuss the importance of a report form to each of the following stakeholders
- Student
 - Teacher
 - Parents
- (6 marks)

QUESTION FOUR (20 MARKS)

The data below shows a sample of scores obtained on a form one Mathematics test:

23, 15, 18, 31, 20, 18, 22, 18, 15, 14, 23, 17, 28, 20, 22, 20, 19, 21, 18.

- a) Prepare an ungrouped frequency distribution table for the data (3 marks)

- b) Using the data above, Compute the following measures of
- i) Central tendency:
 - Mode; (2 marks)
 - Median; (2 marks)
 - Mean. (2 marks)
 - ii) Variability
 - Range; (1 mark)
 - Mean deviation; (4 marks)
 - Standard deviation; (4 marks)
- c) Using the measures of central tendency obtained in (i) above, describe the shape of the distribution; (2 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss five functions of the Kenya Certificate of Secondary Education (KCSE) Examination in the Kenyan Education System. (10 marks)
- b) Explain two purposes of tests and measurements to each of the following:
- i. Teacher; (4 marks)
 - ii. Learner; (4 marks)
 - iii. Administration. (2 marks)