MACHAKOS UNIVERSITY

University Examinations 2021/2022 Academic Year

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL COMMUNICATION TECHNOLOGY / ECE

FIRST YEAR SPECIAL / SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF EDUCATION

ECE209: STATISTICS, TESTS & MEASUREMENT

DATE: 31/8/2022 **TIME: 2.00-4.00 PM**

INSTRUCTIONS

Answer Question ONE and any other TWO questions

QUESTION ONE

a) Distinguish between the following terms:

i. Test and Measurement. (4 marks)

ii. Assessment and Evaluation. (4 marks)

iii. Positive Skewed distribution and Negative Skewed distribution. (2 marks)

iv. A frequency table and a histogram. (2 marks)

b) Explain any three purposes of evaluation in Education. (6 marks)

c) Explain and illustrate the circumstances under which each of the following methods of assessment are used for young children:

i. Observation. (3 marks)

ii. Checklist. (3 marks)

iii. Oral Interview. (3 marks)

iv. Tasks for children to complete. (3 marks)

QUESTION TWO: (20 MARKS)

Test scores have the following distributions:

2, 2, 2, 5, 2, 6, 2, 7, 2, 8, 2, 1, 2, 5, 2, 8 ,2, 3,11,13, 13,15, 16, 18, 21, 24, 26,29, 31.35, 34,36, 40,44, 44, 55, 46, 47, 47, 49, 53, 56, 57, 60.

a) Complete the frequency table below: (8 marks)

Class Interval	**Midpoint**	**Tally**	**Frequency f**	**Deviation From Mean (D)**	**Square Deviation D^2**	**Frequency Times Square Deviation ($f X D^{2)}$**
0-5	2.5					
5-10	7.5					
10-15	12.5					
15-20	17.5					
20-25	22.5					
25-30	27.5					
30-35	32.5					
35-40	37.5					
40-45	42.5					
45-50	47.5					
50-55	52.5					
55-60	57.5					

b) Compute the following:

i. The mean. (2 marks)

ii. The median. (2 marks)

iii. The Variance (5 marks)

iv. Standard deviation (3 marks)

QUESTION THREE (20 MARKS)

a) Complete the table below. (4 marks)

CLASS INTERVAL	**MID-POINT X**	**FREQUENCY f**	**Frequency x mid-point f x X**
0-10	5	8	
10-20	15	11	
20-30	25	15	
30-40	35	24	
40-50	45	16	
50-60	55	11	
60-70	65	5	
Totals		N= 90	

b) Calculate the mean for the data in the table above. (3 marks)

c) Calculate the position of the Median. (3 marks)

d) In which class interval does the median fall? (1 mark)

e) Using a suitable scale, draw the graph of frequency versus class interval. (3 marks)

f) On the same graph, draw the frequency polygon. (3 marks)

g) Show on the above graph the position of the Median. (3 marks)

QUESTION FOUR (20 MARKS)

a) Construct ***two*** multiple choice questions suitable for grade two level. (4 marks)

b) Construct **a test** involving matching items and worth 3 marks. Provide a marking scheme. (4 marks)

c) Explain ***Six*** aspects a teacher would consider when:

i. Assessing Language Development. (6 marks)

ii. Assessing Character Participation. (6 marks)

QUESTION FIVE (20 MARKS)

a) Calculate the mean for the data in the table below. (5 marks)

b) Complete the table below. (7 marks)

Class Interval	mid-point X	Frequency f	Deviation from the Mean (D)	square deviation D^2	Frequency x Square Deviation f x D^2
0-10	5	3			
10-20	15	14			
20-30	25	12			
30-40	35	28			
40-50	45	15			
50-60	55	12			
60-70	65	9			
70-80	75	5			
Totals		N= 98			
			TOTALS		

c) Find the variance. (5 marks)

d) Find the Standard Deviation. (3 marks)