KIBU-QA-F-003

KIBABII UNIVERSITY

UNIVERSITY EXAMINATION
ACADEMIC YEAR 2020/2021

FIRST YEAR SECOND SEMESTER SPECIAL EXAMINATION

MASTERS OF EDUCATION IN EDUCATIONAL MANAGEMENT AND POLICY STUDIES

COURSE CODE: EPM 821

COURSE TITLE: RESEARCH METHODS IN EDUCATION II

DATE: MONDAY 19TH JULY TIME: 9:00-12:00 PM DURATION:3 Hours

INSTRUCTIONS TO CANDIDATES

Answer Question One (compulsory) and Any other TWO (2) Questions

KIBU observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.

1. a) Distinguish between the following terms
   i. Sample and a population
   ii. Parametric and non parametric
   iii. Descriptive and inferential statistics (6mks)

   b) Giving relevant examples, explain the significance of categorical data in research (6mks)

   c) The following is the score of 60 students in an integrated science examination

24	14	11	12	13	15	8	17	1	7
14	7	3	15	28	10	10	19	20	1
14	16	4	11	22	18	6	14	10	4
9	19	16	20	5	5	16	15	23	10
6	7	5	0	13	4	5	0	8	17
24	0	29	14	3	24	22	8	2	28

   i. Construct the frequency table using the ungrouped data.
   ii. Group the data and using class interval/size of 3 construct a second frequency table.
   iii. Draw the different types of graph for the data.
   iv. Compute the mean, variance and standard deviation of the set of scores. (18mks)

   c) State the conditions required to use chi-square technique of analysis (4mks)

2. A factory produces two types of electric bulbs A and B. In a research experiment relating to their life, the following results were obtained.

Length of life(in hours)	No of bulbs	
	A	B
500-700	5	4
700-900	11	30
900-1100	26	12
1100-1300	10	8
1300-1500	8	6
	60	60

Compare the variability of the two varieties using the coefficient of variation (15mks)

3. Two 12m boats K-boat and L-boat are tested as possible contenders in the kodai cup racer. The following data represents the time in minutes to complete a particular track in independent random trials of two boats.

K boat	12.0	13.1	11.8	12.6	14.0	11.8	12.7	12.4	13.5	12.2	11.6	12.9
L boat	11.8	12.1	12.0	11.6	11.8	12.0	11.9	12.6	11.4	12.0	12.2	11.7

i. Test whether the two boats perform equally well.

ii. What is your interpretation of the outcome? (15mks)

4. The following data is provided

Student	Math 1	Maths 2
1	22	23
2	16	33
3	28	24
4	22	16
5	26	31
6	22	26
7	14	19
8	20	23
9	25	21
10	27	32
11	25	26
12	28	31
13	24	34
14	18	30
15	20	27
16	19	21
17	25	23
18	17	14
19	18	21
20	21	21
21	14	20
22	20	12
23	19	16
24	26	30
25	28	20
26	23	18
27	22	27
28	24	24
29	22	17
30	20	27

a) what is the appropriate t-test and why (2Mks)

b) Use the t-test you have chosen to analyze the data with an alpha of 0.05(10 mks)

c) What is the interpretation of the results (3mks)