



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

MAY – JULY 2016 TRIMESTER

FACULTY OF EDUCATION

DEPARTMENT OF POSTGRADUATE STUDIES IN EDUCATION

ODEL PROGRAMME

ED 508: DATA PROCESSING AND COMPUTER APPLICATIONS

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Date: JULY 2016

Duration: 3 Hours

INSTRUCTIONS: Answer ANY FOUR Questions

- Q1. A case study on total of 25 occupational groups was conducted and the following data was collected. The first variable (X) is the smoking index (average 100) and the second variable (Y) is the lung cancer mortality index (average 100)

id	x	Y
1	77	84
2	137	116
3	117	123
4	94	128
5	116	155
6	102	101
7	11	118
8	93	113
9	88	104
10	102	88
11	91	104
12	104	129
13	107	86
14	112	96
15	113	144
16	110	139
17	125	113
18	133	146

19	115	128
20	105	115
21	87	79
22	91	85
23	100	120
24	76	60
25	66	51

- Prepare and enter the above given data set into SPSS (Save your data as Q1 data) **(3 marks)**
- Draw a scatter plot of smoke versus lung cancer mortality index and comment on the relationship displayed. **(3 marks)**
- Compute the Pearson product moment correlation coefficient and comment on the results. **(5 marks)**
- Given $\alpha = 0.05$, determine whether there is significant relationship between smoking and the lung cancer mortality rate. Support your answer. **(6.5 marks)**

Q2. The following data reflect the number of scores sports students were able to make after training for netball. Group 1 was trained using theory and Group 2 was trained using theory and practice.

	Group 1		Group 2		
6	4	2	5	3	3
4	5	3	5	3	2
4	5	4	5	4	3
3	11	1	4	5	6
2	4	13	3	5	5
7	4	14	6	6	3
9	8	2	8	8	8
6	2	4	8	8	9
7	5	9	8	6	6
4	2	4	9	6	6

- Organize and enter the above data into SPSS (save your data as Q2 data) **(5 marks)**
- Conduct an independent samples t-test to test the null hypothesis that there is no significant difference between the means of group 1 and group 2 (save your output as Q2b output) **(5.5 marks)**
- Describe your findings and give your conclusion. **(7 marks)**

Q3. The following data were obtained on two sets of scores

Score 1	Score 2
17.00	94.00
13.00	73.00
12.00	59.00
15.00	80.00
16.00	93.00
14.00	85.00
16.00	66.00
16.00	79.00
18.00	77.00
19.00	91.00

- a) Organize and key in the data into SPSS (save your data as Q3 data) **(4 marks)**
- b) Compute the mean, median and mode for each of the two sets (save output as Q3b output) **(3 marks)**
- c) Using the measures of central tendency, comment on the average performance in each set of scores. **(3.5 marks)**
- d) Generate a histogram and normal curve for the two sets of scores. (Save output as Q3d output) **(3 marks)**
- e) What is the tendency of scores as observed from the histogram and curve. **(4 marks)**
- Q4. Using employee data on SPSS sample data
- a) Conduct a chi-square test to test the null hypothesis that there is no significant relationship between employees' level of education and their current salary (save output as Q4a output) **(9 marks)**
- b) Discuss your findings and give your conclusion. **(8.5 marks)**
- Q5. a) Explain in details why it is necessary to study statistics. **(5 marks)**
- c) Describe the main aspects to consider in a study when deciding on the particular statistical test that you should employ for data analysis. **(5.5 marks)**

d) Discuss the importance of linear regression model in conducting research.
(7 marks)

Q6. Give a detailed account of the steps followed in hypothesis testing. (17.5 marks)

END