JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF EDUCATION

UNIVERSITY EXAMINATION FOR THE MASTERS DEGREE IN EDUCATION-SPECIAL NEEDS EDUCATION

2ND YEAR 2ND SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS SCHOOL BASED APRIL 2017

COURSE CODE: EDU 803

COURSE TITLE: RESEARCH METHODS II

EXAM VENUE: **STREAM: (MED- SNE)**

DATE: **EXAM SESSION:**

TIME: 3   HOURS

Instructions:

1. **Answer Question ONE (COMPULSORY) and ANY other 2 questions**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE (COMPULSORY)

a) a) Select one of the problems you would wish to research on in your area of specialty and write on the following:

   i)   Four objectives of your study
   ii)   Hypotheses and research questions
   iii)   Four subsections of the literature review
   iv)   Research design
   v)   Data analysis   (10mks)

b) A researcher was interested in studying Learners with disability vaccinated or not vaccinated against small pox in a given inclusive setting. The results were as shown in the table below:

	Attacked	Not attacked	Total
Vaccinated	31	469	500
Not vaccinated	185	1315	1500
Total	216	1784	2000

Test the effectiveness of vaccination in preventing attack from small Pox with help of Chi-square ($\chi 2$) at $\alpha=0.05$ and interpret your results   (10mks)

QUESTION TWO

a) A group of ten candidates scored the following marks in English and Kiswahili tests:

English(X)	12	18	16	11	7	10	13	17	12	9
Kiswahili (Y)	6	5	7	7	4	9	8	13	10	11

Calculate and comment on Karl - Pearson's Product moment correlation coefficient(10mks)

b) The marks of 1000 candidates in an examination were normally distributed with a mean mark of 45% and standard deviation of 10%.

i) Given that the pass mark in the test was 60%, estimate the number of candidates who passed the examination   (5mks)

ii) Calculate the probability that a student picked at random from the group scored between 35% and 65%   (5mks)

QUESTION THREE

The K.C.S.E Mathematics examination score for a given county assessment test in 2013 was 51% with a standard deviation of 14. A county director of education believes that students who were in public boarding primary schools score better in the test. The director obtains a simple random sample of 40 high school students who were in pubic boarding primary schools and finds that their mean score is 54%. Conduct a p-value approach of hypothesis testing to determine if the director's believes are supported by data at 5% level of significance. (20mks).

QUESTION FOUR

The following information relates to the number of tuition administered to 8 candidates in a special institution of learning and corresponding positive academic performance index in mathematics for a period of four years.

No. of candidates	No of tution (X)	Positive performance index (Y)
1	27	23.5
2	33	27.2
3	25	36.8
4	18	19.1
5	28	24.3
6	39	30.0
7	32	22.1
8	29	24.5

a) Find a regression equation that fits the data and interpret the results (12mks)
b) Estimate the positive performance index in case the following no of tution were offered:
   i)   22
   ii)   35   8 mks

QUESTION FIVE

The distribution of scores for a certain master of education unit for a group of 50 candidates were as follows:

Marks	No of Candidates
50-54	2
55-59	5
60-64	7
65-69	8
70-74	11
75-79	9
80-84	4
85-89	2
90-94	2

a) Construct a histogram to represent the data (3mks)

b) Estimate the:
   i)   Mean mark (4mks)
   ii)   Median mark (4mks)
   iii) Standard deviation (4mks)
   iv)   Modal mark (2mks)

c) By calculating the coefficient of Skewness or otherwise, describe the nature of distribution of scores in the test. (3mks)