JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION 2012/2013
1ST YEAR 2ND SEMESTER EXAMINATION FOR THE DEGREE OF MSC. INFORMATION SYSTEM
KISII LEARNING CENTRE

COURSE CODE: IIS 5126
TITLE: RESEARCH METHODS
DATE: 21/4/2013   TIME: 8.00-11.00AM
DURATION: 3 HOURS

<u>INSTRUCTIONS</u>

1. This paper contains FIVE (5) questions

2. Answer question 1 (Compulsory) and ANY other 2 Questions

3. Write all answers in the booklet provided

Question 1
(a)   (i) With the help of clear instructions, explain what a research problem is, and how different it is from other issues people consider to be problems.   [6 Marks]
(ii) Explain why it is necessary to define a research problem.   [5 Marks]
(iii) What techniques would you use to define a research problem well?   [5 Marks]
(b)   *Research is mandatory for all postgraduate students pursuing Master's and Doctoral courses. Beside educational institutions, there are agencies that are established to carry out research.* Discuss the concept of research and outline the reasons why research is undertaken.   [6 Marks]
(c)   (i) What is a research proposal?   [2 Marks]
(ii) What is the purpose of a research proposal?   [2 Marks]
(d)   Describe any two measures of central tendency pointing out the situation when one measure is considered relatively appropriate in comparison to other measure.
[4 Marks]

Question 2
a) Elucidate the importance of literature review.   [3 Marks]
b) Write brief but critical notes on the following:
   (i) Conceptual framework   [2 Marks]
   (ii) Theoretical framework   [2 Marks]
   (iii)Reliability   [2 Marks]
   (iv)Validity   [2 Marks]
   (v) Research Questions   [2 Marks]
   (vi)Hypothesis   [2 Marks]

Question 3
In line with Vision 2030 the government of Kenya with support from non-governmental organizations has initiated ICT projects aimed at bridging the digital divide, development of ICT skills and prevention of social exclusion among the citizens. Such projects include Pasha/Digital Village Centres and CLIC. However, research shows that these projects are being implemented in a fragmented way, without an overall strategy. It will be argued that these projects are being implemented without due consideration of lessons that can be learnt from established community based telecentre initiatives. The argument is that before further developments are planned it is necessary to undertake research to examine the extent to which people use existing Telecentres and if there are factors affecting use of existing Telecentres it is important to identify these factors before further Telecentres are developed.
(a) (i) What methods would you use to gather data if you were to research on the above issue?   [3 Marks]
   (ii) Outline the justification of your preferred methods of data collection.   [2 Marks]
(b) Study the research topic below and answer the questions that follow:
   "Requirements Determination of Information Systems: User and Developer Perceptions of Factors Contributing to Misunderstanding"
   (i) Identify the dependent and independent variables. Justify your answer.   [4 Marks]
   (ii) Formulate three research objectives from the above research topic.   [3 Marks]
   (iii) Formulate three research questions from the objectives formulated in (ii) above.

Question 4

a) Explain the meaning and significance of a Research design. [2 Marks]

b) "A systematic bias results from errors in the sampling procedures".

   (i) What is "systematic bias"? [2 Marks]

   (ii) Describe the causes responsible for systematic bias. [2 Marks]

c) (i) Why is probability sampling is generally preferred in comparison to non-probability sampling? [2 Marks]

   (ii) Explain the procedure of selecting a simple random sample. [3 Marks]

d) "Research design in exploratory studies must be flexible but in descriptive studies, it must minimise bias and maximise reliability." Discuss. [4 Marks]

Question 5

a) "Discriminate use of average is very essential for sound statistical analysis". Discuss.

   [3 Marks]

b) With the help of valid examples, explain how you would work out the following statistical measures often used by researchers.

   (i) Coefficient of variation [3 Marks]

   (ii) Arithmetic average [3 Marks]

   (iii) Coefficient of skewness [3 Marks]

   (iv) Standard deviation [3 Marks]