AFRICA UNIVERSITY

(A United Methodist-Related Institution)
INVESTING IN AFRICA'S FUTURE

FACULTY OF EDUCATION

FIRST SESSION 2011 SUPPLEMENTARY EXAMINATION QUESTION PAPER

COURSE CODE	HES 223
COURSE TITLE	Introduction to Quantitative Techniques
GROUP	B Ed (Block release)
EXAMINER	Mr. G.R. Chimonyo
DATE	December, 2011
DURATION	3 Hours
INSTRUCTIONS	1. Answer **three** questions

1. (a) Explain the many ways the term statistics has been used.
   (b) Give an explanation of the term post hoc ergo propter hoc trap
   (c) Compare the advantages and disadvantages of the arithmetic mean and median as measures of central tendency.
   (d) Identify and explain the characteristics of the normal distribution curve.

(e) What is meant by a significant difference in hypothesis testing? Explain what meant by a rejection region.

2. Table 1 shows the weights of female students at a certain university in Africa.

TABLE 1: Weights of female students at a university in Africa

68	52	49	56	69
74	41	59	79	81
42	57	60	88	87
47	65	55	68	65
50	78	61	90	85
65	66	72	63	95

(a) Computer the arithmetic mean, median and mode for the data set.
(b) Compute the standard deviation
(c) Comment on the use of the measures of central tendency and the standard deviation for a data set such as this.

3. (a) You are given some light bulbs and you are told that their mean lifetime is 750 hours with a standard deviation of 80 hours.
   (i) What is the probability that a light bulb will last between 750 hours and 830 hours?
   (ii) What is the probability that a light bulb will last between 790 hours and 870 hours?
   (iii) What is the probability that a light bulb will last between 730 hours and 850 hours?
   (iv) What is the probability that a light bulb will last more than 810 hours?

(b) Compute the number of combinations of (i) three cards taken two at a time and (ii) seven items taken three at a time.

4. Explain how a sample is drawn using the simple sampling method.

5. Discuss the procedure of problem solving in quantitative analysis.

6. Explain four cases where statistics has been used to mislead and misrepresent.