



**MURANG'A UNIVERSITY COLLEGE**

*(A Constituent College of Jomo Kenyatta University of Agriculture and Technology)*

**EXAMINATION FOR THE DEGREE OF BACHELOR OF COMMERCE.**

**HBC 2110: INTRODUCTION TO BUSINESS STATISTICS**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**YEAR 1 SEMESTER II**

**DATE: MAY 2014**

**DURATION: 2 HOURS**

**INSTRUCTIONS.**

QUESTION ONE IS COMPULSORY. ANSWER ANY OTHER TWO QUESTIONS.

QUESTION ONE (30 MARKS)

(a) Explain **three** properties of arithmetic mean. [3 marks]

(b) Explain **four** uses of index numbers [3 marks]

(c) A company has **three** establishments  $E_1$ ,  $E_2$  and  $E_3$  in three cities.

Analysis of the daily wages paid to the employees in the three establishments is given below

	E1	E2	E3
Number of employees	20	25	40
Average daily wages (shs)	305	300	340
Standard deviation (shs)	50	40	45

**Required**

Find the average and the standard deviation of the wages of all the 85 employees in the company. [4 marks]

(d) A piece of equipment will function only when all the three components A, B and C are working. The probability of A failing during one year is 0.15, that of B failing is 0.05 and that of C failing is 0.10. What is the probability that the equipment will fail before the end of the year. [4 marks]

(e) A buyer of electric bulbs bought 100 bulbs each of two brands. Upon testing these he found that brand A had a mean life of 1500 hours with standard deviation of 50 hours whereas brand B had a mean life of 1530 hours with a standard deviation of 60 hours. Can it be concluded at 5% level of significance that the two brands differ significantly in quality of the bulbs. [4 marks]

