



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(STATISTICS AND PROGRAMMING)

SST 100: INTRODUCTION TO BUSINESS AND SOCIAL STATISTICS

DATE: WEDNESDAY, 28TH MARCH 2012

TIME: 11.00 A.M. – 1.00 P.M.

INSTRUCTIONS

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS.
SHOW ALL YOUR WORKINGS.

QUESTION ONE

- a) Explain the specific mandate of the Kenya National bureau of Statistics as per the Statistics Act, 2006. (10 marks)
- b) Find the cost of living index number for the following:

Item	Weight	Group index
Food	56.5	91.4
Clothing	5.3	106.5
Fuel	6.3	102.2
Housing	11.6	100
Miscellaneous	20.3	100.3

- (6 marks)
- c) Clearly discuss four types of validity using examples. (8 marks)
- d) Describe three reasons why it is important to study the secular trends as a statistician. (6 marks)

QUESTION TWO

- a) Clearly explain five limitations encountered in the use of index numbers quoting examples. (5 marks)
- b) Baraka manufacturers specializes in the manufacture of detergents and has recorded the following sales over the last 9 years.

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sale (in millions \$)	13	15	19	21	27	35	47	49	57

- i) Plot the information on a graph. (4 marks)
- ii) Develop the linear estimating equation to show the relationship between sales and time. (8 marks)
- iii) Use the equation to estimate sales in 2011 and 2013. (3 marks)

QUESTION THREE

The university's admission department has compiled the following quarterly enrolment figures for the previous 5 years.

Year	Fall	Winter	Spring	Summer
2006	220	203	193	84
2007	235	208	206	76
2008	236	206	209	73
2009	241	215	206	92
2010	239	221	213	115

- a) Using the data, calculate a 4 quarter centered moving average. (15 marks)
- b) Find the percentage of actual to moving average for each period. (5 marks)

QUESTION FOUR

- a) The following data shows the prices of 5 types of fruits over a 3 month period and the quantity sold in June in Kg.

Fruit	Price per kg			Number of Kgs sold in June
	June	July	August	
Apples	59	64	69	150
Oranges	75	65	70	200
Peaches	87	90	85	125
Watermelons	100	110	95	350
Mangoes	95	89	90	150

- a) Calculate the weighted aggregate price index for each month. (12 marks)
- b) Clearly explain the steps followed when constructing a cost of living index number. (8 marks)

QUESTION FIVE

- a) Discuss four factors that affect the reliability of social statistics using examples. (8 marks)
- b) Kenya intends to become a middle income country by year 2030. Clearly discuss how Kenya compares with the average of the middle-income-countries on at least eight socio-economic indicators. (12 marks)
