



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE (FASHION AND DESIGN)**

HFD 301: INTRODUCTION TO STATISTICS

DATE: MONDAY 2ND APRIL 2012

TIME: 11.00 A.M. – 1.00 P.M.

INSTRUCTIONS

Answer ALL the questions in section A and any Two in Section B.

Section A - 40 marks

Section B - 30 marks

Total - 70 marks

Section A: Answer all the questions (40 marks)

1. Explain the following terms as used in statistics.

- a. Variable
- b. Sample
- c. Scatter diagram
- d. A pie chart
- e. Data

(5 marks)

2. Using relevant examples differentiate between the following concepts.

- a. Ordinal and Nominal data
- b. Actual component bar chart and percentage component bar chart
- c. Null and research/alternative hypothesis

(12 Marks)

3. State any three (3) requirements for the use of Pearson correlation.

(3 Marks)

4. a) Using diagrams, discuss the relationship between mode, mean and median. (6 Marks)

b) Highlight what each of the following statistics measure

- i. Chi-Square
- ii. Range
- iii. ANOVA
- iv. Regression

(4 Marks)

5. Using the following data determine the mean, mode and the median

34, 56, 24, 25, 34, 22, 56, 35, 55, 34, 34, 57, 34

(6 Marks)

6. Using the empirical rule, determine the maximum time required for a Fashion Designer to be complete an outfit for a client given the mean as 2 hours and the standard deviation of 0.65.

(4 Marks)

SECTION B: Answer only two (2) questions from this section (30 marks)

7. Consider the following sets of data and answer the questions that follow.

- Amount of fabric required for a class project (in meters): 9, 4, 3, 6, 5, 3, 4
- Number of students enrolled for Fashion Design and Marketing course in various years: 85, 79, 81, 60, 65
- Cost ('000 ksh) of producing 20 tones of cotton curtain fabrics by different companies 2, 2.5, 4, 2, 7, 1.8

For each set of data above do the following:

- Name the variable that is being measured and give an example of a value of the variable.
- State the level of measurement the variable is measured at.
- Identify the dependent and the independent variable

(15 marks)

8. a. Critically analyze the following table

		Working Experience			
		3-5	5-7	8-10	11-13
Income	Less than 5000	20	25	15	10
	5000-10000	15	20	35	20
	10000-15000	18	10	20	12
	Above 15000	10	33	40	14
Total		63	76	110	50

Source: Journal

(5 Marks)

b. Using the data below answer the questions that follow. Company Zeemay produced the following number of shirts between 2005 and 2008

Shirt size	2005	2006	2007	2008
14	75	100	100	150
16	30	35	45	40
18	45	55	15	30
20	60	68	50	40

- Depict the above data in form of a pie chart for the year 2008, use the size category

(6 ½ Marks)

- ii. What is the percentage decrease in production of the year 2007 compared to the production in the year 2006 (1 ½ Marks)
 - iii. Assuming that the cost of production of one shirt is Ksh 85, calculate the percentage increase in the cost of production in 2005 and 2003 (2 Marks)
9. Fifteen students participated in a research to establish their expenditure on HFD 301 class project in Semester I I. The following data was recorded in Ksh.
- 700, 650, 300, 250, 280, 580, 320, 340, 455, 500, 385, 275, 340, 845, 245, 320
- a. Using the above data construct a grouped frequency table using a class interval width of 50Ksh. Show all the steps.
 - b. From the grouped data determine the mean expenditure on the project.
 - c. Compute the refined mode (15 marks)