

**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF BUSINESS AND ECONOMICS**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF**

**DIPLOMA IN BUSINESS MANAGEMENT**  
**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER EXAMINATION 2015/2016 ACADEMIC YEAR**

**MAIN CAMPUS**

**COURSE CODE: BBM 2216**

**COURSE NAME: STATISTICS AND QUANTITATIVE METHODS**

**INSTRUCTIONS**

- 1.** Answer Question 1 (Compulsory) and any other two questions.
- 2.** Candidates are advised not to write on the question paper.
- 3.** Candidates must hand in their answer booklets to the invigilator while in the examination room.

### **QUESTION ONE**

a) Briefly discuss five advantages of diagrams as applied in statistics

(10 marks)

b) (i) If  $y = 5x + 4$ , then explain the functional relationship between  $x$  and  $y$  by the help of a graph. (6 marks)

(ii) Explain what is meant by the following two terms:

- Independent variable (2 marks)

- Dependent variable (2 marks)

c) (i) The daily wages of 30 workers on a farm are shown in the table below

WAGES	30-34	35-39	40-44	45-49	50-54	55-59
FREQUENCY	1	6	10	8	2	3

Required: Calculate the mean daily wage (6 marks)

(ii) State four functions performed by statistics in various fields (4 marks)

### **QUESTION TWO**

a) The table below shows the distribution of height to the nearest 'cm' of 40 students.

HEIGHT	145-149	150-154	155-159	160-164	165-169	170-174	175-179
FREQUENCY	2	5	16	9	5	2	1

Required:

(i) The medium height (3 marks)

(ii) The lower quartile (3 marks)

(iii) The upper quartile (3 marks)

(iv) 80<sup>th</sup> percentile (3 marks)

b) Briefly discuss four limitations of statistics to an organization (8 marks)

### **QUESTION THREE**

- a) XYZ company limited are manufacturers of three products namely biscuits, bread and cakes. Their sales for a period of four years were as follows:

Year	BISCUITS	BREAD	CAKES	TOTAL
2004	50	80	40	170
2005	60	100	50	210
2006	70	110	30	210
2007	90	120	50	260

Required: Draw

- (i) A simple bar chart (5 marks)
- (ii) A component bar chart (5 marks)
- (iii) A multiple bar chart (5 marks)

- b) Explain five characteristics of a good graph (5 marks)

#### **QUESTION FOUR**

- (a) Use the information below to determine the correlation between price X and the quantity supplied Y (10 marks)

TIME PERIOD (DAYS)	QUANTITY SUPPLIED (Y1 IN TONS)	UNIT PRICE (X1 KSHS)
1	10	2
2	20	4
3	50	6
4	40	8
5	50	10

6	60	12
7	80	14
8	90	16
9	90	18
10	120	20
n=10	$\sum Y_1 = 610$	$\sum X_1 = 110$

(b) Explain three types of forecasts as applied in time series analysis.(6 marks)

(c) Highlight four advantages of forecasting techniques (4 marks)

### **QUESTION FIVE**

a) Define the following terms

(i) Statistical methods (2 marks)

(ii) Applied statistics (2 marks)

b) From the following information, construct a pie chart

Product	Sales “000”
A	200
B	150
C	100
D	150
	600

(6 marks)

Before using secondary data, the investigator should examine certain aspects. Discuss the five aspects that should be paid attention to (10 marks)