THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

Faculty of Business & Social Studies

DEPARTMENT OF LIBERAL STUDIES, COMMUNITY DEVELOPMENT & COUNSELING

DIPLOMA IN COMMUNITY DEVELOPMENT COUNSELLING

(DCDC J08)

STATISTICAL METHODS

END OF SEMESTER EXAMS

SERIES: APRIL/MAY 2010.

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. The paper consists of **TWO** Sections **A** and **B**.
2. Answer **ALL** questions in Section **A**
3. Answer **TWO** questions only from Section **B**
4. Use of Calculators is allowed. DO NOT USE MOBILE PHONES AT ALL.

SECTION A

Answer **ALL** questions – 30 marks (Compulsory).

Q.1 (a) Briefly explain the difference between the following terms:

(i) Primary data and secondary data (4 marks)

(ii) Population and Sample. (4 marks)

(b) What is a data array? (2 marks)

(c) The following data shows the ages (in years) of 50 employees of Diddy Ltd.

22	57	41	38	19	20	37	58	33	37
24	29	40	30	23	27	27	25	48	32
28	49	40	43	34	44	62	46	42	27
47	37	54	52	21	42	36	31	23	28
39	35	36	34	18	19	32	31	29	39

(i) A grouped frequency distribution table with classes of size 5 starting from 15 years. (8 marks)

(ii) Calculate the mean of the above b(i) grouped frequency distribution. (4 marks)

(iii) From the grouped frequency distribution table you have prepared, plot a Histogram. (6 marks)

(iv) On the same axes used in (iii) above, plot a frequency polygon. (2 marks)

SECTION B

Answer any **TWO** questions ONLY from this Section.

Q.2 (a) Describe **FOUR** advantages of the tabular form of data presentation. (4 marks)

(b) The following table shows the distribution of marks in a statistics test for diploma students of January 2008.

Marks	No. of students
10 – 20	20
20 – 30	4
30 – 40	10
40 – 50	6

Calculate:

(i) The mode (3 marks)
(ii) The median (4 marks)
(iii) The quartile deviation. (9 marks)

Q.3 (a) Calculate the standard deviation of the following numbers:

5, 7, 8, 12 and 18. (10 marks)

(b) Explain **FOUR** methods of collecting primary data. (10 marks)

Q.4 The IQs of a group of **SIX** students were measured, then they sat a certain examination. Their IQs and examination marks obtained were as follows:

Persons:	IQ(x)	Exam marks (y)
A	110	70
B	100	60
C	140	80
D	120	60
E	80	10
F	90	20

(a) Find the regression lines relating to this data i.e **x** on **y** line and **y** on **x** line. (18 marks)

(b) Use one of the lines to estimate the IQ of a student who obtained 77 marks. (Round to nearest whole number). (2 marks)

Q.5 (a) Highlight **THREE** advantages of moving values. (3 marks)

(b) The table below shows the sales made by J08 Ltd. For the years 2008 and 2009.

Month	**Sales (Sh. Million)**	
	2008	**2009**
January	190	205
February	180	200
March	204	230
April	272	305
May	255	245
June	196	240
July	212	215
August	238	230
September	245	280
October	264	315
November	280	340
December	270	325

Provide Z-chart of the Sales for the year 2009. (17 marks)