



**Q 1. a) Define statistics (5marks)**

b) State five functions of statistics **(5marks)**

c) What is the difference between inferential statistics and descriptive statistics **(5marks)**

d) State the measures of dispersion **(5marks)**

d) Explain the following concepts as used in statistics **(10 marks)**

i) Population

ii) Parameter

iii) Variable

**Q2 a) Distinguish between mean, mode and median (10 marks)**

b) Calculate the mean and standard deviation from the data below **(10 marks)**

<b>Scores</b>	6	7	8	9	10	11	12
<b>Frequencies</b>	3	6	9	13	8	5	4

**Q3.** Given the following data.

<b>X</b>	2	3	5	6	8	9
<b>Y</b>	6	5	7	8	12	11

a) Calculate the pearson's moment correlation coefficient **(10 marks)**

b) Draw a scatter diagram **(7 marks)**

c) Comment on the relationship between x and y **(3 marks)**

**Q4.a)** State the procedure in computing chi-square test **(10 marks)**

b) Quinine was administered to 812 persons out of 3248 patients. The number of fever cases is given below.

<b>Treatment</b>	<b>Fever</b>	<b>No fever</b>	<b>Total</b>
Quinine	20	792	<b>812</b>
No Quinine	220	2216	<b>2436</b>
<b>Total</b>	<b>240</b>	<b>3008</b>	<b>3248</b>

With the help of chi-square test, test the usefulness of quinine in checking malaria.

The chi-square value at 5% level of significance for 1 degree of freedom is 3.84. **(10 marks)**

**Q5.a)** Give at least five uses of index numbers **(10 marks)**

b) Calculate the index number of crime for 2009 with 2008 as the base. **(10 marks)**

	<b>2008</b>	<b>2009</b>	<b>weight</b>
<b>Robberies</b>	13	8	6
<b>Car theft</b>	15	22	5
<b>Motor cycle theft</b>	249	185	4
<b>Pick pockets</b>	328	259	1
<b>Theft by servants</b>	497	448	2

