



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE  
DEGREE OF BACHELOR OF ARTS IN URBAN AND REGIONAL  
PLANNING WITH INFORMATION TECHNOLOGY**

**CITY CAMPUS**

**PUR 222: QUANTITATIVE TECHNIQUES**

Date: 19<sup>th</sup> April, 2016

Time: 9.00 - 11.00am

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INSTRUCTIONS:

- **Answer Question ONE (Compulsory) and any other TWO Questions.**



1. a) Find the range and co-efficient of range of the following distribution (10mks)

Class	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Freq.	10	20	27	36	52	42	18	6

- b) Find the Q.D and co-efficient of Q.D from the following data (20mks)

Class	30-39	40-49	50-59	60-69	70-79	80-89	90-99
freq	8	87	190	304	211	85	20

2. Calculate Karl Pearsons co-efficient of skewness from the following data:

Marks	No of students
0-10	10
10-20	40
20-30	20
30-40	0
40-50	10
50-60	4
60-70	16
70-80	14

3. Explain the properties of a good measure of dispersia (5 mks)

b) The following distribution gives the difference in age between husband and wife in a particular community

Difference in age	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	449	705	507	281	109	52	16	4

Calculate the mean deviation M.D from the median and co-efficient of mean deviation

4. Compute the moving average for 5 years for the time series below [20 marks]

Year	Value
1	390
2	381
3	372
4	405
5	420
6	396
7	387
8	381
9	435
10	474
11	459
12	438
13	435
14	492
15	510

5. (a) Explain the significance of studying correlation to urban and regional planning [5marks]

b) Find Karl Pearsons co-efficient of correlation between traffic density and accident rate from the following data [15 marks]

Traffic density	30	35	40	45	50	60	70	80	90
Accident rate	2	4	5	5	8	15	24	30	32

6 a) Define the following terms:

i) Mutually exclusive events

ii) Complementary events (5 mks)

b) From the balls containing 4 white and 5 black balls, a man draws 3 at random. What is the chance of drawing 3 black balls? [15 marks]