



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF ARTS IN SOCIOLOGY WITH
INFORMATION TECHNOLOGY
(CITY CAMPUS – REGULAR)**

ASO 313: QUANTITATIVE TECHNIQUES

Date: 28th March, 2014

Time: 9.00 – 11.00 a.m.

INSTRUCTIONS:

- Answer **ANY THREE** questions.



ASO 313: QUANTITATIVE TECHNIQUES

(REGULAR)

YEAR THREE SEMESTER TWO

Answer Any **Three** Questions.

1. Calculate coefficient of correlation by the concurrent deviation method for the distribution below: **(23.3 Marks)**

Supply: 112 125 126 118 118 121 125 125 131 135

Price: 106 102 102 104 98 96 97 97 95 90

2. From the following distribution, calculate the Pearsons r and the coefficient of determination and provide its interpretation. **(23.3 Marks)**

X: 100 200 300 400 500 600 700

Y: 30 50 60 80 100 110 130

3. Twelve entries in a painting competition were ranked by two judges as shown below:

Entry: A B C D E F G H I J

Judge I: 5 2 3 4 1 6 8 7 10 9

Judge II: 4 5 2 1 6 7 10 9 3 8

Find the coefficient of rank correlation. **(23.3 Marks)**

4. From the following data on the treatment of 259 patients, find out using the chi square technique whether the new treatment is superior to the conventional one.

	Favourable	Not favourable	Total
New	160	30	170
Conventional	60	20	80
Total	200	50	250

5. Discuss the concept of ethics as used in sociological research.

(23.3 Marks)

6. Discuss the process entailed in the organization, analysis and interpretation of quantitative data. (23.3 Marks)

Chi Square Distribution Table

d.f.	$\chi^2_{.25}$	$\chi^2_{.10}$	$\chi^2_{.05}$	$\chi^2_{.025}$	$\chi^2_{.010}$	$\chi^2_{.005}$	$\chi^2_{.001}$
1	1.32	2.71	3.84	5.02	6.63	7.88	10.8
2	2.77	4.61	5.99	7.38	9.21	10.6	13.8
3	4.11	6.25	7.81	9.35	11.3	12.8	16.3
4	5.39	7.78	9.49	11.1	13.3	14.9	18.5
5	6.63	9.24	11.1	12.8	15.1	16.7	20.5
6	7.84	10.6	12.6	14.4	16.8	18.5	22.5
7	9.04	12.0	14.1	16.0	18.5	20.3	24.3
8	10.2	13.4	15.5	17.5	20.1	22.0	26.1
9	11.4	14.7	16.9	19.0	21.7	23.6	27.9
10	12.5	16.0	18.3	20.5	23.2	25.2	29.6
11	13.7	17.3	19.7	21.9	24.7	26.8	31.3
12	14.8	18.5	21.0	23.3	26.2	28.3	32.9
13	16.0	19.8	22.4	24.7	27.7	29.8	34.5
14	17.1	21.1	23.7	26.1	29.1	31.3	36.1
15	18.2	22.3	25.0	27.5	30.6	32.8	37.7
16	19.4	23.5	26.3	28.8	32.0	34.3	39.3
17	20.5	24.8	27.6	30.2	33.4	35.7	40.8
18	21.6	26.0	28.9	31.5	34.8	37.2	42.3
19	22.7	27.2	30.1	32.9	36.2	38.6	42.8
20	23.8	28.4	31.4	34.2	37.6	40.0	45.3
21	24.9	29.6	32.7	35.5	38.9	41.4	46.8
22	26.0	30.8	33.9	36.8	40.3	42.8	48.3
23	27.1	32.0	35.2	38.1	41.6	44.2	49.7
24	28.2	33.2	36.4	39.4	42.0	45.6	51.2
25	29.3	34.4	37.7	40.6	44.3	46.9	52.6
26	30.4	35.6	38.9	41.9	45.6	48.3	54.1
27	31.5	36.7	40.1	43.2	47.0	49.6	55.5
28	32.6	37.9	41.3	44.5	48.3	51.0	56.9
29	33.7	39.1	42.6	45.7	49.6	52.3	58.3
30	34.8	40.3	43.8	47.0	50.9	53.7	59.7
40	45.6	51.8	55.8	59.3	63.7	66.8	73.4
50	56.3	63.2	67.5	71.4	76.2	79.5	86.7
60	67.0	74.4	79.1	83.3	88.4	92.0	99.6
70	77.6	85.5	90.5	95.0	100	104	112
80	88.1	96.6	102	107	112	116	125
90	98.6	108	113	118	124	128	137
100	109	118	124	130	136	140	149

Table from Ronald J. Wonnacott and Thomas H. Wonnacott,
Statistics: Discovering Its Power, New York: John Wiley and Sons, 1982, p.352.