

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 86
(For Candidates admitted during the academic year 2009 – 2010 & thereafter)

SUBJECT CODE: EC/PC/RM14

M.A. DEGREE EXAMINATION NOVEMBER 2010

BRANCH III – ECONOMICS

FIRST SEMESTER

COURSE : MAJOR - CORE

PAPER : RESEARCH METHODOLOGY – I

TIME : 2 HOURS

MAX.MARKS : 60

SECTION – A

ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 300

WORDS

5 X 4 = 20

1. Enumerate the steps involved in statistical investigation and hypothesis testing.
2. Discuss the properties Ordinary Least Squares (OLS) Regression Method.
3. Explain the significance of multiple regression analysis. Brief the meaning of ‘p’ and ‘t’ value of a regression co-efficient and Adjusted R^2 in a multiple regression model.
4. Is there a statistically significant difference between the mean accidents of the below given two towns.

	Average No. of Accidents	Std. Deviation.	N
Town A:	4.5	1.2	144
Town B:	5.4	1.5	100

Test at both 5% and 1% level of significance.

5. Briefly discuss the components of time series data and the importance of unit root test.
6. Explain with examples the Non-Parametric Tests.

SECTION – B

ANSWER ANY TWO QUESTIONS. EACH ANSWER NOT TO EXCEED 1200

WORDS

2 X 20 = 40

7. Estimate and Interpret the intercept and slope coefficient for the following data: Is the coefficient for the independent variable ‘income’ statistically significant.

Income:	12	11	14	6	10	7	9	11	10	10
Consumption:	10	7	10	4	8	8	6	7	9	11

8. Eight coins are tossed simultaneously 256 times. No. of heads observed at each throw is recorded below.

No of head at a single throw:	0	1	2	3	4	5	6	7	8
No of times head occurred :	2	6	30	52	67	56	32	10	1

Fit a suitable distribution for the same data set.

9. Test is administered to a random sample of 10 students of University X. The sample test is also administered to a random sample of 11 students of University Y. The test score are as follows.

X: 70 68 76 81 86 58 62 75 83 48

Y: 72 67 74 65 63 77 71 60 76 61 64

Test whether the score of the two groups of students are significantly different.

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M.A. DEGREE EXAMINATION NOVEMBER 2010
BRANCH III – ECONOMICS
THIRD SEMESTER

COURSE : MAJOR - CORE
PAPER : RESEARCH METHODOLOGY – I
(PRACTICAL)

TIME : 2 HOURS

MAX.MARKS : 40

Answer any 4 Questions :

[4 X 10 = 40]

1. Show with appropriate statistical tool if there is any significant difference between the marks of students in 3 universities A, B and C.

University	Students				
	1	2	3	4	5
A	90	70	60	50	80
B	70	40	50	40	50
C	60	50	60	70	60

2. Given the Sales data, calculate the sales of the year 2010 using the given below regression model

$$\text{Ln (sales)} = a + b (\text{times})$$

Year:	2000	01	02	03	04	05	06	07
Sales:	52	45	98	92	110	185	175	220

Show the trend line in the graph

3. Represent the following data with the help of a suitable diagram.

(a)

Year:	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
Urban poor:	108	103	112	120	139	173	180	199	233	257	278

(b)

Census year:	1951	1961	1971	1981	1991	2001
Persons:	18.33	28.3	34.45	43.57	52.21	65.38
Males:	27.16	40.1	45.96	56.38	64.13	75.85
Female:	8.86	15.35	21.97	29.76	39.29	54.16

4. Consider the following demand functions:

$$Y_i = \alpha_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + u_i$$

$$\text{Ln} Y_i = \beta_1 + \beta_2 \text{Ln} X_{2i} + \beta_3 \text{Ln} X_{3i} + \beta_4 \text{Ln} X_{4i} + \beta_5 \text{Ln} X_{5i}$$

Where

Y = Qty of roses sold (dozens)

X1 = Average wholesale prices of roses (\$ per Dosen)

X3 = Average wholesale prices of carnations (\$ per Dosen)

X4 = Average weekly disposal income (\$ Per Week)

X5 = time Period

How would you compute the various elasticities for both models?

5. During 1973 Qtr II there was a change in policy introduced. So clearly the duration from 1971 to 1975 can be classified into two mutually exclusive periods. Using dummy variable regression model test whether there is a statistical difference in the slope coefficients of the two periods.

Yr - Qtr	Y	X1	X2	X3
1971 - III	11.484	2.26	3.49	158.11
1971 - IV	9.348	2.54	2.85	173.36
1972 - I	8.429	3.07	4.06	165.26
1972 - II	10.079	2.91	3.64	172.92
1972 - III	9.24	2.73	3.21	178.46
1972 - IV	8.862	2.77	3.66	198.62
1973 - I	6.216	3.59	3.76	186.28
1973 - II	8.253	3.23	3.49	188.98
1973 - III	8.038	2.6	3.13	180.49
1973 - IV	7.476	2.89	3.2	183.33
1974 - I	5.911	3.77	3.65	181.87
1974 - II	7.95	3.64	3.6	185
1974 - III	6.134	2.82	2.94	184
1974 - IV	5.868	2.96	3.12	188.2
1975 - I	3.16	4.24	3.58	175.67
1975 - II	5.872	3.96	3.54	188.67
