STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 86
(For Candidates admitted during the academic year 2011 – 2012 & thereafter)

SUBJECT CODE: 11EC/PC/RM14

M.A. DEGREE EXAMINATION NOVEMBER 2012
BRANCH III – ECONOMICS
FIRST SEMESTER

COURSE : CORE
PAPER : RESEARCH METHODOLOGY, COMPUTER APPLICATIONS – I (THEORY)
TIME : 2 HOURS **MAX.MARKS : 60**

SECTION – A

I. Answer any three questions. Each question should not exceed 300 words.
(3 X 20 = 60)

1.a. Enumerate the steps involved in statistical investigation and hypothesis testing.
b. What do you mean by sampling design? Explain with example different types of sampling designs.

2.a. What is a research problem? Discuss the main issues that should receive the attention of the researchers in formulating the research problem.
b. Discuss with example the logics of deduction and induction in research

3. Discuss the different methods of data collection with appropriate examples

4. Explain and illustrate with appropriate examples the following four research designs
(i) Simple randomized design
(ii) Latin square design
(iii) Experimental design
(iv) Simple Factorial design

5.a. Describe the layout of a research report covering all relevant points.
b. Explain why interpretation is a fundamental component in research process.

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TIME : 1 HOUR **MAX.MARKS : 40**

SECTION – B

Solve Any 4 Problems **(4X10 =40)**

1. Samples of light bulbs were bought from two suppliers and were subjected to destruction test in the lab. The following data was collected on the life of bulbs in hours as given below:

Life in Hrs	700-800	800-900	900-1000	1000-1100	Total
Supplier A	14	74	29	13	130
Supplier B	12	58	32	18	120

(a) Which supplier provides greater average life? Supplier A or B
(b) Which supplier provides uniform quality?
(c) Which supplier would you prefer

2. 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

3. Given the demand and supply functions of watermelons along with its price range, create a table containing quantity demanded and supplied for watermelons at various price levels. Graph the same and depict the equilibrium price. Various prices at which watermelon bought and sold are:

(Price in Rs.) 4 5 6 8 10 12 14 16 18 20

and the demand and supply equations are given as:

$Q_d = 20 - P$
$Q_s = -10 + 2P$

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

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

5. a. Fit a Regression equation for the above data to find the influence of Income on savings volume. (Write the Fitted Regression in the same Excel Sheet).

YEAR	SAVINGS	INCOME
1970	61.0	727.1
1971	68.6	790.2
1972	63.6	855.3
1973	89.6	965.0
1974	97.6	1054.2
1975	104.4	1159.2
1976	96.4	1273.0
1977	92.5	1401.4
1978	112.6	1580.1
1979	130.1	1769.5
1980	161.8	1973.3
1981	199.1	2200.2
1982	205.5	2347.3
1983	167.0	2522.4
1984	235.7	2810.0
1985	206.2	3002.0

(b) Interpret the fit of the model, and the significance of intercept income in the model. Compute the predicted savings and Fit the line that shows predict against actual.

(c) Predict the increase or decrease in savings if the income were Rs. 900 Rs.35,257, 61,005 & 1,00,000 respectively

6. An Income tax system taxes all incomes of £8,000 or less at a rate of 10%. For incomes in excess of £8,000, but not exceeding £20,000 the tax rate is 25% on that range of income. The top rate of tax is 40% and applies to income in excess of £20,000. Prepare a worksheet that can calculate the tax due for each level of taxable income given below. Also use Excel Charts to show the relationship between Taxable Income and Tax Due.

Income (in dollars) 0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000 24000 26000

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