STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted from the academic year 2009–10)

SUBJECT CODE : EC/PC/RM24

M. A. DEGREE EXAMINATION, APRIL 2010
BRANCH III – ECONOMICS
SECOND SEMESTER

COURSE: MAJOR – CORE
PAPER : RESEARCH METHODOLOGY, COMPUTER APPLICATIONS – I (THEORY)

TIME : 2 HOURS **MAX. MARKS : 60**

SECTION – A

ANSWER ANY FOUR QUESTIONS. EACH ANSWER NOT TO EXCEED 300 WORDS.
(4 X 5 =20)

1. Define a research problem? How is a research problem formulated?

2. What is a hypothesis and how are type I and type II errors related to it. Explain with example the steps involved in testing of hypothesis

3. Explain the meaning and significance of a research design. Enumerate the basic principles underlying experimental research designs.

4. Explain the uses of inductive & deductive methods of researching in economic theory.

5. What are non-parametric tests? Give examples.

6. Explain the steps in statistical investigation with appropriate examples for each step.

SECTION – B

ANSWER ANY TWO QUESTIONS. EACH ANSWER NOT TO EXCEED 1200 WORDS.
(2 X20 =40)

7. The yield of 5 varieties of wheat (A,B,C,D,E) in different plots of land are arranged in Latin-square design is given below . Carry out an analysis and draw inference from the same.

B	**E**	**C**	**A**	**D**
90	80	134	112	92
E	**D**	**B**	**C**	**A**
85	84	70	141	82
C	**A**	**D**	**B**	**E**
110	90	87	84	69
A	**C**	**E**	**D**	**B**
81	125	85	76	72
D	**B**	**A**	**E**	**C**
82	60	94	85	88

..2..

8. Enumerate different methods of collecting data. Which one is most suitable for conducting enquiry regarding family welfare program in India? Explain its merits and demerits.

9. The following data set gives Advertisement Expenditure and corresponding sales for a particular company. Estimate the impact of advertising expenditure on sales.

Advertising Exp :	7000	10000	9000	4000	11000	5000	3000
Sales :	12000	14000	13000	5000	15000	7000	4000

****

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted from the academic year 2009–10)

SUBJECT CODE : EC/PC/RM24

M. A. DEGREE EXAMINATION, APRIL 2010
BRANCH III – ECONOMICS
SECOND SEMESTER

COURSE: MAJOR – CORE
PAPER : RESEARCH METHODOLOGY, COMPUTER APPLICATIONS – I (PRACTICAL)
TIME : 2 HOURS **MAX. MARKS : 40**

Solve all 4 Problems: **[4 * 10 = 40]**

1. **a)** Using the State-wise egg production and price data given below Generate two new variables namely Sqrt. of X_1 and X_2. Convert variable X3 into a Numeric Variable.
   b) Convert Egg production in 1990 into two categories (Equal to or less than 1500 Million as category 1 & Above 1500 million eggs as the category 2, Name this variable as **Pdn.Gr**.) Run a cross tabulation for the variable Pdn.Gr. and Region (X3). Interpret the same.
   c) Use dummy variable and examine if there exists a statistically significant regional effect on production of eggs.

State wise egg production and price

STATE	Y1	Y2	X1	X2	X3
AP	2206	2186	8593.29	8353.96	S
Bihar	73	74	3721	3136	N
Gujarat	3620	3737	7447.69	8427.24	N
Harayana	7472	7444	4019.56	3410.56	N
HP	788	873	6052.84	5329	N
J&K	1029	948	11236	10816	N
Karnataka	168	164	13689	12769	S
Kerala	2568	2537	3844	3271.84	S
MP	4302	4301	6496.36	6528.64	S
Maharashtra	227.5	224.5	7225	7310.25	S
Orissa	187	203	6256.81	5314.41	S
Punjab	793	809	4225	4970.25	N
Rajasthan	5445	5290	3931.29	3612.01	N
TN	2151	2247	3192.25	2809	S
UP	404	389	2970.25	2284.84	N
Uttaranchal	412	483	4583.29	5402.25	N
West Bengal	273	254	13225	13225	N

Y1 = Eggs Produced in 1990, in Millions
Y2 = Eggs Produced in 1991, in Millions
X1 = Price Per Dozen in 1990, in Rs.
X2 = Price Per Dozen in 1991, in Rs.
X3 = North / South

..2..

2. An MBA Aspirant was interested in knowing the impact of educational background (Arts / Engineering) on the final placement salaries. He is also aware that the previous work experience also has an impact on salaries. Therefore he chose educational background and work experience as two independent variables. Based on educational background, respondents are categorised in to two groups, one with arts/commerce and the other with science/engg. based on previous work exp. they are again classified into two groups one with work exp and the other without. A sample of 3 students is randomly chosen and their salaries from campus recruitment as well as the information on edu background and work exp are collected. Salaries are given in lakhs. Verify whether work experience and educational background has a significant impact on placement salaries using Two-Way ANOVA in SPSS.

Student	Educational Background	Work_Exp	Salary (in lakhs)	Student	Educational Background	Work_Exp	Salary (in lakhs)
1	1	1	8.5	16	2	1	9.8
2	1	1	10.8	17	2	1	10.2
3	1	1	9.7	18	2	1	11
4	1	1	8.8	19	2	2	7.8
5	1	2	7.8	20	2	2	7.3
6	1	1	7.5	21	2	1	6.9
7	1	1	7.8	22	2	1	6.1
8	1	1	6.9	23	2	1	6.25
9	1	2	4.5	24	2	2	3.8
10	1	2	4.1	25	2	2	3.2
11	1	1	7.7	26	2	2	5.1
12	1	2	5.5	27	2	2	4.9
13	1	2	5.6	28	2	2	4.65
14	1	2	5.2	29	2	2	4.8
15	1	2	4.1	30	2	1	5.24

3. A study was conducted to compare the efficiency of the workers of two mines, one with private ownership and the other with the Govt. ownership. The researcher was of the view that there is no significant difference in the efficiency levels. Total tonnage of the minerals mined by a worker in one shift was taken as the criteria to assess his efficiency. 20 Workers from a private sector mine and 20 from Govt. sector mine were selected at random and their average output per shift was recorded. Assess whether the efficiency of the worker of the two mines are same using Independent sample t-test in SPSS.

..3..

Miner	Mine	Output (in Tonnes)	Miner	Mine	Output (in Tonnes)
1	1	48	21	2	42
2	1	45	22	2	44
3	1	33	23	2	41
4	1	39	24	2	39
5	1	34	25	2	35
6	1	49	26	2	34
7	1	33	27	2	33
8	1	45	28	2	36
9	1	48	29	2	37
10	1	44	30	2	37
11	1	45	31	2	41
12	1	45	32	2	42
13	1	36	33	2	39
14	1	48	34	2	38
15	1	41	35	2	38
16	1	47	36	2	39
17	1	39	37	2	41
18	1	49	38	2	40
19	1	38	39	2	41
20	1	45	40	2	40

4. **(a)** Given the following regress data, Regress profit on sales for the quarterly periods of 1965- 1970.

   (b) Is the seasonal pattern present in the various quarters statistically significant?

Yr - Qtr	Profit (Million $)	Sales (Million $)
1965 - I	10503	114862
1965 - II	12092	123968
1965 - III	10834	121454
1965 - IV	12201	131917
1966 - I	12245	121911
1966 - II	14001	140976
1966 - III	12213	137828
1966 - IV	12820	145465
1967 - I	11349	136989
1967 - II	12615	145126
1967 - III	11014	141536
1967 - IV	12730	151776
1968 - I	12539	148862
1968 - II	14849	158913
1968 - III	13203	155727
1968 - IV	14947	168409
1969 - I	14151	162781
1969 - II	15949	176057
1969 - III	14024	172419
1969 - IV	14315	183327
1970 - I	12381	170415
1970 - II	13991	181313
1970 - III	12174	176712
1970 - IV	10985	180370

D2 = 1 for quarter II
0 otherwise

D4 = 1 for quarter IV
0 otherwise

D3 = 1 for quarter III
0 otherwise

****