

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted from the academic year 2015-16 and thereafter)

SUBJECT CODE: 15EC/PC/RM24

M. A. DEGREE EXAMINATION, APRIL 2017
BRANCH III – ECONOMICS
SECOND SEMESTER

COURSE : MAJOR – CORE

PAPER : RESEARCH METHODS AND ANALYSIS–II (PRACTICAL)

TIME : 1 HOUR

MAX. MARKS: 40

ANSWER ANY FOUR QUESTIONS

(4 X 10 = 40)

1. In order to assess the feasibility of a guaranteed annual wage, the Rand Corporation conducted a study to assess the response of labor supply in terms of average hours of work(Y) based on different independent parameters. The data were drawn from a national sample of 6,000 households with male head earnings less than \$15,000 annually. These data are given in Table 1 given below:

S.N.	Hours (X ₁)	Rate (X ₂)	ERSP (X ₃)	ERNO (X ₄)	NEIN (X ₅)	Assets (X ₆)	Age (X ₇)	DEP (X ₈)
1	2,157	2.905	1,121	291	380	7,250	38.5	2.340
2	2,174	2.970	1,128	301	398	7,744	39.3	2.335
3	2,062	2.350	1,214	326	185	3,068	40.1	2.851
4	2,111	2.511	1,203	49	117	1,632	22.4	1.159
5	2,134	2.791	1,013	594	730	12,710	57.7	1.229
6	2,185	3.040	1,135	287	382	7,706	38.6	2.602
7	2,210	3.222	1,100	295	474	9,338	39	2.187

- (i) Apply regression analysis using SPSS to suggest a regression model for estimating the average hours worked during the year based on identified independent parameters.
- (ii) Test the regression coefficients for its significance through t-test by using its significance value (p value) in the output.
2. Using the above example in question 1 and the table given above:
- (i) Test the regression model for its significance through the F-value by looking to its significance value (p value) in the output.
- (ii) Use the value of R² in the output to know the amount of variance explained in the dependent variable by the identified independent variables together in the model.
3. A) Using EXCEL generate a pie diagram to represent the following data of investment pattern in the five year plan:

ITEM	INVESTMENT(%)
Agriculture and Community Development	14
Irrigation and Power	16
Industries and Minerals	29
Transport and Communications	17
Social Services	16
Inventories	8
Total	100

B) Using EXCEL generate a multiple bar diagram for the following data:

YEAR	SALES ('000)	GROSS PROFIT('000)	NET PROFIT ('000)
2000	100	30	10
2001	120	40	15
2002	130	45	25
2003	150	50	25

4. An experiment was conducted to know the impact of new advertisement campaign on sale of television of a particular brand. The number of television units sold on 12 consecutive working days before and after launching the advertisement campaign in a city was recorded. The data obtained are shown in the table given below:

3	22	38	
4	26	40	
5	18	35	
6	8	12	
7	23	29	
8	31	52	
9	25	26	
10	22	26	
11	20	25	
12	5	7	

Test the hypothesis using appropriate test statistic and give your inference.

5. In a study, 90 workers were tested for their job satisfaction. Their job satisfaction level was obtained on the basis of the questionnaire, and the respondents were classified into one of the three categories, namely, low, average, and high. The observed frequencies are shown below:

Table: Summary of responses of the workers about their job satisfaction levels:

JOB SATISFACTION LEVEL		
Low	Average	High
40	30	20

Compute Chi-square intesting whether there is any specific trend in their job satisfaction and interpret the results.

6. A human resource department of an organization conducted a study to know the status of occupational stress among their employees in different age categories. A questionnaire was used to assess the stress level of the employees in three different age categories: <40, 40–55, and >55 years. The stress scores so obtained are shown in Table given below:

48	68	51	
47	68	59	
54	71	64	
56	79	52	
62	86	48	
56	81	65	
45	79	48	
51	72	56	
54	78	49	
48	69		

Apply one-way analysis of variance to test whether mean stress score of the employees in any two age categories are different. Test your hypothesis at 5% level.
