SUBJECT CODE: 15EC/PC/RM24

M. A. DEGREE EXAMINATION, APRIL 2016
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. The Table below shows the percentage of people casted votes in recent general election. Perform appropriate test and draw your inferences about the mean percentage population casted votes corresponding to the States and Political Affiliation.

Day/Store	Democrat	Republican
A	33.5	36.5
B	42.5	35.7
C	22.3	47.3
D	32.4	38.2
E	21.9	48.8
F	35.7	40.4

2. The scores of Survey of Study Habits and Attitudes (SSHA) were given to 20 male and 18 female first-year students in a selected private school (given in Table below). Most of the studies suggest that the mean SSHA score for men is lower than that of comparable group of women. Is this true for first-year students at this college? Test the hypothesis with appropriate statistical test at 1 %, 5 % and 10 % level of significance.

Female	115	152	140	154	178	101	103	126	126	137	165	165	129	200	148	-	-
Male	91	180	115	126	92	169	146	109	132	75	88	113	151	70	115	187	104

3. A researcher was interested in knowing whether the performance of firms belonging to the automobile sector is independent of the location of the firm. She developed a measure of performance on a nominal scale from 1-3.   1 representing loss, 2 break-even and 3 profit. The location of the firm was put 1 for low/middle income countries and 2 for high income countries. Find out if the performance of the firm is independent of its location. Data embedded in excel sheet below (double click excel sheet).

Firm	1	2	3	4	5	6
Location	1	1	1	1	1	1
Performar	1	1	1	1	1	1

4. To study the impact on sales promotion and advertising expenditure on sales, the following data were collected.

Company	1	2	3	4	5	6	7
Advertisir	50	15	40	80	65	35	75
Sales Pron	25	30	40	60	50	45	25

(a) Set up and validate the multiple linear regression model for the problem, sales being the response variable
(b) Find the expected sales if advertising expense is Rs. 40 and promotional expense is 80.
(c) Discuss the model fitness.

5. Bob and Tom are Invetors. Each of the buy stocks they think will rise in value and hold them for a year. At the end of the year, they compare their stocks appreciation (percent). At 5 % level of significance is there a difference in the medians by performing a Man-Whitney Test on the below given data.

Bob's Portfolio	7.0	2.5	6.2	4.4	4.2	8.5	10.0	6.4	3.6	7.6	-	-
Tom's Portfolio	5.2	0.4	2.6	-0.2	4.0	5.2	8.6	4.3	3.0	0.0	8.6	7.5

6. The following data gives information on the amount of solid pollution suspended in the water samples.

Water samples	1	2	3	4	5	6	7	8	9	10	11	12
Pollution rating (PPM)	37.2	51.7	68.4	54.2	49.9	33.4	39.8	52.7	60.0	46.1	38.5	49.1

(a) Describe the data
(b) Determine the number of samples having pollution content between 30.0 and 39.9, 40.0 and 49.9 & 50.0 and 59.9.
(c) If 45.0 is the pollution content used by the environmental agencies to indicate excessive pollution, how many samples would be rated and having excessive pollution?
(d) Is there a significant difference between 45.0 and the average amount of solid pollutions suspended in the water samples?

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