

**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 2018**  
**BRANCH III – ECONOMICS**  
**SECOND SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : RESEARCH METHODS AND ANALYSIS–II (PRACTICAL)**  
**TIME : 2 HOURS** **MAX. MARKS: 40**

**SECTION B**

**Answer any 4 Questions: (4 x 10 Marks = 40 Marks)**

1. The Table below shows the percentage of people casted votes in recent general election. Perform a ANOVA test and draw your inferences about the mean percentage population casted votes corresponding to the States and Political Affiliation. Construct an ANOVA table and describe the results.

State	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. Using appropriate statistical test find out if the performance of the firm is independent of its location. Data embedded in excel sheet below (**double click excel sheet for full data**).

4. To study the

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

impact on sales promotion and advertising expenditure on sales, the following data were collected. (double click excel sheet for full data)

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

- Set up and validate the multiple linear regression model for the problem, sales being the response variable
- Find the expected sales, if advertising expense is Rs. 40 and promotional expense is Rs. 80.
- Discuss the model fitness and significance of the relationships.

5. Bob and Tom are Investors. 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 U 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 electricity charges for the month of Oct.2017 for 60 sample households. Describe the dataset after running a frequency distribution and box plot. Present the frequency distribution with appropriate chart. (double click excel sheet for full data).

202	192	100	214	159	168
178	168	126	183	163	136
147	137	182	131	139	99
102	92	121	136	152	120
153	143	158	152	196	176

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