M. A. DEGREE EXAMINATION, APRIL 2019
BRANCH III – ECONOMICS
SECOND SEMESTER

COURSE   : MAJOR – CORE
PAPER   : RESEARCH METHODS AND ANALYSIS–II (PRACTICALS)
TIME   : 1 HOUR   MAX. MARKS: 40
SECTION B

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

1. The following are the marks obtained by 50 students in a college,
   21, 3, 47, 42, 24, 0, 27, 59, 68, 37, 78, 11, 33, 79, 41, 29, 39, 54, 46, 82, 44, 30, 49, 51, 84,
   54, 47, 51, 30, 56, 61, 66, 51, 32, 67, 71, 57, 50, 37, 61, 76, 81, 71, 58, 68, 87, 99, 77, 70.
   (i) Construct an inclusive type frequency distribution table.
   (ii) Calculate the mean and test if it is statistically different from 45.
   (iii) Comment on the various parameters of the distribution.

2. A study of the effect of caffeine on muscle metabolism used eighteen male volunteers
   who each underwent arm exercise tests. Nine of the men were randomly selected to take a
   capsule containing pure caffeine one hour before the test. The other men received a
   placebo capsule. During each exercise the subject's respiratory exchange ratio (RER) was
   measured. (RER is the ratio of CO_2 produced to O_2 consumed and is an indicator of
   whether energy is being obtained from carbohydrates or fats).
   Check, whether, on average, caffeine changes RER.

RER with Placebo	RER with Caffeine
105	96
119	99
100	94
97	89
96	96
101	93
94	88
95	105
98	88

3. The weights (in gm) of a number of copper wires, each of length 1 metre are obtained. These are shown below classified according to the dies from which the wires come:

Die no.				
I	II	III	IV	V
1.30	1.28	1.32	1.31	1.30
1.32	1.35	1.29	1.29	1.32
1.36	1.33	1.31	1.33	1.30
1.35	1.34	1.28	1.31	1.33
1.32		1.33	1.32	
1.37		1.30		

Test the hypothesis that there is no difference between the mean weights of the wires coming from the different dies.

4. the following table is based on a random sample of persons attending the preview of a motion picture:

	Age below 40	Age 40 or above
Liked the picture	32	8
Did not like the picture	4	6

Judge whether the picture had equal appeal to the young and the old.

5. Use an appropriate diagram to represent the following data:

Item	Area (mn hectares)
1. Total Geographical Area	329
2. Total reporting area	305
3. Barren land	41
4. Area under forest	67
5. Permanent grazing land	12
6. Cultural waste land	19
7. Fallow land	30
8. Net area sown	136

6. The following table shows the data on salaries, gender, and work experience (in years) of some employees of a company. Check if gender and work experience significantly affect salary in the said company.

Sl. No.	Gender	Work Experience	Salary
1	F	9	21
2	F	1	96
3	F	4	47
4	F	1	128
5	F	4	64
6	F	1	52
7	F	4	73
8	F	7	19
9	M	6	128
10	M	3	474
11	M	3	342
12	M	2	330
13	M	7	185
14	M	7	331
15	M	1	267
16	M	6	517
17	M	8	390

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