

Seat No.	
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B.C.A. (Faculty of Commerce) (Part-II) (Semester-III)
Examination, April - 2017
COMPUTER ORIENTED STATISTICAL METHODS
(Paper -305)
Sub. Code : 63400

Day and Date : Friday, 28-04-2017
Time : 11.00 a.m. to 2.00 p.m.

Total Marks : 80

- Instructions :**
- 1) Question number eight is compulsory.
 - 2) Attempt any FOUR questions from question number 1 to 7.
 - 3) Figures to the right indicate full marks.
 - 4) Use of nonprogrammable calculator is allowed.
 - 5) Graph paper will be supplied on request.

- Q1) a)** Give meaning of statistics. Explain scope of statistics.
b) Define M.D. about mean and its relative measure. Find M.D. about median and its coefficient from the following data.

Value	10	11	12	13	14
Frequency	3	12	18	12	4

[16]

- Q2) a)** Define discrete variable and continuous variable. Give an example of each.
Given below are the marks obtained by 23 students in an examination. Form the discrete frequency distribution and hence find median.
10, 35, 20, 20, 30, 20, 40, 25, 30, 10, 15, 40, 20, 25, 25, 35, 30, 35, 15, 20, 25, 25, 20.
- b)** Define the terms: Correlation and coefficient of correlation (r). Interpret, if (i) $r = +1$, (ii) $r = -1$, (iii) $r = 0$. **[16]**

- Q3) a)** Define the terms: (i) sample and (ii) sampling. Explain SRSWR and SRSWOR.

P.T.O.

b) Describe pie chart. Draw a pie chart to represent the following data.

Item	Food	clothing	Rent	Medicine	others
Average expenditure Per Moth in Rs.	644	200	420	80	90

[16]

Q4) a) Define time series and state its components. Calculate 4-yearly centered moving averages for the data given below.

Week	1	2	3	4	5	6	7	8	9	10
Production	75	74	73	72	76	76	80	75	76	72

b) State any two properties of regression coefficients.

If the regression equations are $3x - y - 5 = 0$ and $4x - 3y = 0$, then find

- i) mean of x and y
- ii) regression coefficients
- iii) correlation coefficient between x and y.

[16]

Q5) a) State the relation between correlation coefficient and regression coefficients and verify them by using following data.

X	2	3	4	7	6
Y	10	7	3	1	2

b) State the requirements of a good averages.

Using relation between mean, median and mode, find the value of mode of a distribution whose mean is 26.8 and median is 27.6. [16]

Q6) a) Define the terms : Mean and median. Find mean and median for the following data.

Wages in Rs.	30-40	40-50	50-60	60-70	70-80
No. of Workers	9	13	25	11	7

b) Define S.D. and C.V.

For a set of 100 observations, the sum is 389 and sum of squares is 2570. Find S.D. and C.V. [16]

- Q7) a) Explain secular trend in time series. State utility of time series.
b) Define Rank correlation coefficient. Calculate rank correlation coefficient from the data give below and comment on your result.

Marks in Mathematics	41	43	45	34	36	40
Marks in statistics	46	43	44	39	40	43

[16]

- Q8) a) Define combined mean and combined S.D. for two groups. For the data given below, find combined variance and combined C.V. of two factories A and B.

	Factory A	Factory B
No. of employees	50	100
Average wage	Rs.120	Rs.85
Variance	Rs.9	Rs.16

- b) Define stratified random sampling. A sample of size 450 is to be drawn from a population of 9000 units, which is divided into four strata of sizes 1000,2000,2500,3500. Find the sample size from each stratum by stratified random sampling with proportional allocation.

[16]

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