

Seat No.	
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B.C.A. (Part - II) (Semester - III) Examination, May - 2018
COMPUTER ORIENTED STATISTICAL METHODS (Paper - 305)
Sub. Code : 63400

Day and Date : Monday, 14 - 05 - 2018

Total Marks : 80

Time : 03.00 p.m. to 06.00 p.m.

- Instructions :
- 1) Question number 8 is compulsory.
 - 2) Attempt any Four Questions from question number 1 to 7.
 - 3) Figures to the right indicate full marks.
 - 4) Use of non programmable calculator is allowed.
 - 5) Graph paper will be supplied on request.

- Q1)** a) Define statistics. Explain scope of statistics.
 b) Define median and Mode. Calculate Median and Mode from following data (By converting the given classes in the exclusive form).

Age in years	10-19	20-29	30-39	40-49	50-59
No. of Persons	8	8	15	11	8

[8 + 8]

- Q2)** a) Following data gives number of catches taken by A and B in 5 one day matches.

Catches taken by A	4	5	4	3	5
Catches taken by B	1	0	4	2	1

Find, who is consistent in the matter of taking the catches?

- b) The following data gives the sales of a firm. Fit a straight line trend by the method of least squares and obtain the trend values.

Year	2009	2010	2011	2012	2013
Sales ('000' units)	270	285	295	315	330

[8 + 8]

P.T.O.

- Q3) a)** Define Ogive curve. Draw a less than Ogive curve for the following data. and hence determine the value of Median.

Marks	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90 - 100
No of Students	5	7	10	18	15	12	7	6

- 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.

[8 + 8]

- Q4) a)** Define regression coefficients. State any two properties of regression coefficients.

- b) Define Mean and upper quartile. Find mean, median and upper quartile from the following data.

38, 34, 39, 35, 32, 31, 37, 30, 48.

[8 + 8]

- 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) Define the terms : Sample, population and sampling. State the advantages of sampling method over census method.

[8 + 8]

- Q6) a)** Define M.D. about mean and M.D. about median.

Find M.D. about mean and M.D. about median from the following data.
31, 35, 29, 63, 55, 72, 37.

- b) Define Time series. State its components. Obtain Three yearly moving averages from the following data.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Value	20	24	22	25	28	30	33	30	36	37

[8 + 8]

- Q7) a)** State the equations of regression lines. From 10 observations on price (X) and supply (Y) of a commodity, the following data were obtained.

$$\Sigma X = 130, \Sigma X^2 = 2288, \Sigma Y = 220, \Sigma XY = 3467$$

Compute the equation of line of regression of supply on price and estimate the supply when price is 16 units.

- b) Explain the method of moving averages in time series.

[8 + 8]

- Q8) a)** State the requirements of a good averages.

The mean salary of 50 workers were Rs. 200. It was latter found that two items 160 and 210 were wrongly taken as 130 and 190. Find correct mean salary.

- b) Write note on Rank Correlation coefficient.

Calculate rank correlation coefficient for the following data.

X	53	98	95	81	75	61	59	55
Y	47	25	32	37	30	40	39	45

[8 + 8]

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