

Seat No.	
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B.C.A. (Faculty of Commerce) (Part - II) (Semester - III)
Examination, April - 2016

COMPUTER ORIENTED STATISTICAL METHODS

(Paper - 305)

Sub. Code: 63400

Day and Date : Saturday, 30 - 04 - 2016

Total Marks : 80

Time :11.00 a.m. to 2.00 p.m.

- Instructions :**
- 1) Question number Eight is compulsory.
 - 2) Attempt any 4 questions from the remaining questions.
 - 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) Define Statistics. Explain Qualitative data and Quantitative data. Give an example of each. **[8]**

b) Define time series and state uses of time series. Calculate 3- yearly moving averages for the following data (without graph). **[8]**

Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Values	13	15	18	22	24	30	32	40	44	50

Q2) a) Write note on Spearman's Rank correlation coefficient. **[8]**

b) State the name of any two absolute measure of dispersion. Calculate an appropriate measure of dispersion for the following data: **[8]**

Age in years	Below 20	20-30	30-40	40-50	50 and above
No.of workers	2	10	28	20	12

Q3) a) Describe in brief the method of Moving Averages in time series. [8]

b) Following data represents the number of students enrolled for BCA course in a college: [8]

Classes : BCA - I BCA - II BCA - III

No. of students : 70 65 45

Draw a pie-diagram for the above data.

Q4) a) Define A.M. and state its merits, demerits. Calculate missing frequency in the following data, if A.M. is 1.46. [8]

No. of children(X)	0	1	2	3	4	5
No. of families(f)	46	76	38	25	-	5

b) State the equations of regression lines. For two variables X and Y, the lines of regression are $5X - 6Y + 90 = 0$, $15X - 8Y - 130 = 0$. Find [8]

i) Mean of X and Y,

ii) Correlation coefficient between X and Y.

Q5) a) State the relation between correlation coefficient and regression coefficients. Calculate regression coefficients from the following data and hence find correlation coefficient. [8]

Price	2	3	4	7	6
Demand	10	7	3	1	2

b) Give the meaning of Averages. State the requirements of a good average. [8]

Q6) a) Define the terms: Sample, sampling and population. Explain SRSWR and SRSOW. [8]

b) Define mode and upper quartile. State the empirical relation between mean, median and mode. Use it to estimate mean of the distribution whose median and mode are 43 and 40 respectively. [8]

Q7) a) Explain in brief cyclical variations in time series. Obtain progressive averages (without graph) from the following data. [8]

Months	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Value	13	15	18	16	18	20	22	20	25	22	23	24

b) Define Mean Deviation (M.D.) and coefficient of M.D. Obtain M.D. about mean and its relative measure from the following data: 35, 29, 31, 37, 55, 63, 72. [8]

Q8) a) Calculate Rank correlation coefficient between two variables X and Y and comment on your result. [8]

X	53	98	95	81	75	61	59	56
Y	47	25	32	37	30	40	39	45

b) Two samples of sizes 40 and 50 have same mean 25 but different standard deviations 19 and 18 respectively. Find mean and S.D. of the combined group. [8]

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