2012
Bachelor of Computer Application
First Semester
BCA-16-102: Fundamentals of Mathematical Statistics

Time allowed: 3 Hours

Max. Marks: 65

NOTE: *Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I -IV.*

x-x-x

UNIT – I

I. a) Why is tabulation of data important? Explain various parts of a table.

b) How are weighted and geometric mean calculated? Exemplify. (7,6)

II. a) Why is statistical analysis useful? Explain various steps in statistical investigation.

b) How is harmonic mean calculated for discrete and continue series? Explain. (7,6)

UNIT – II

III. a) Compute median:-

Mid-value	115	125	135	145	155	165	175	185	195
Frequency	4	24	51	71	115	60	32	19	13

b) How are co-efficient of standard deviation and co-efficient of variation are computed? Explain.

(7,6)

IV. a) Calculate quartile deviation:-

Salary	Less than 35	35 - 37	38 - 40	41 - 43	Over 43
Employees	14	62	99	18	7

b) How is combined standard deviation calculated? Explain the way of correcting incorrect standard deviation.

(7,6)

UNIT - III

V. a) What is the need of correlation-analysis? Explain the various techniques for calculating correlation.

b) Calculate Karl Pearson's coefficient of correlation from the following data:-

Roll No.	11	12	13	14	15
Marks 1	49	35	32	20	45
Marks 2	43	23	22	18	47

(7,6)

P.T.O.

VI. a) Define correlation. Which are the various techniques for measuring it?

b) Calculate coefficient of concurrent deviation between supply and demand.

Supply	125	160	164	174	155	170	165	162	172	175
Demand	115	125	192	190	165	174	124	127	152	169

(7,6)

UNIT - IV

VII. a) Why is regression analysis carried out? Explain its various types.

b) Obtain the regression equation of Y on X where

X	50	60	50	60	80	50	80	40	70
Y	30	60	40	50	60	30	70	50	60

(7,6)

VIII. a) Obtain the regression coefficient of Y on X for

X	52	63	45	36	72	65	47	25
Y	62	53	51	25	79	43	60	33

b) What are the uses and limitations of regression analysis?   (7,6)

UNIT – V

IX. Explain the following:-

a) Error of estimate   (3)

b) Difference between correlation and regression   (2)

c) Coefficient of variation   (2)

d) Percentile range   (2)

e) Arithmetic mean   (2)

f) Mode   (2)

x-x-x