F.Y. B. SC. (Computer Science) SEM – I (2014 COURSE) : WINTER - 2018

SUBJECT: COMPUTER ORIENTED STATISTICAL TECHNIQUES-I

Day : Thursday
Date : 25/10/2018

W-2018-0944

Time : 12.00 NOON TO 02.00 PM
Max. Marks : 40.

N.B.:

1) All questions are **COMPULSORY.**
2) Figures to the **RIGHT** indicate full marks.
3) Draw neat and labeled diagrams **WHEREVER** necessary.
4) Use of logarithmic tables, statistical table and pocket **CALCULATOR** are allowed.

Q.1 Attempt any **TWO** of the following: **(10)**

a) Describe the scope of statistics in agriculture and management sciences.

b) Prepare the usual frequency distribution for following:

Marks below	10	20	30	40	50
No. of students	1	8	35	46	50

c) Compute median and mode of the following frequency distribution:

Weight in kg	below 40	40-50	50-60	60-70	above 70
No. of students	3	5	12	20	10

Q.2 Attempt any **TWO** of the following: **(10)**

a) Explain concept of absolute and relative measures of dispersion.

b) Find variance and standard deviation for the following frequency distribution of daily wages:

Daily wages	0-20	21-40	41-60	61-80	81-100
No. of persons	5	32	45	17	1

c) Two regression equations of variables X and Y are $X = 19.13 - 0.87\,Y$ and $Y = 11.64 - 0.5X$. Find
(i) Means of X and Y (ii) Correlation coefficient between X and Y.

Q.3 Attempt any **TWO** of the following: **(10)**

a) Explain the procedure of fitting of line of regression of Y on X.

b) Suppose X, Y and Z are uncorrelated variables with same means and same variances. Find: (i) Corr (X, X + Y) (ii) $Corr\left(X, \frac{X+Y}{2}\right)$.

c) The mean and variance of a distribution are 30 and 64 respectively and its Pearson's coefficient of skewness is 0.25, find mode and median.

Q.4 Attempt any **FIVE** of the following: **(10)**

a) Define open end class and relative frequency.

b) State the formula for combine mean. State the notations in it clearly.

c) If $y = 2x + 3$ then show that $\sigma_y^2 = 4\sigma_x^2$.

d) Find range and coefficient of range for the following observations,
6, 4, 5, 2, 12, 10.

e) Define kurtosis.

f) If Corr (X, Y) = –0.3. Find (i) $Corr\left(\frac{X-10}{2}, \frac{5-Y}{3}\right)$ (ii) $Corr\left(\frac{X}{2}, \frac{Y}{3}\right)$

g) If $\mu_1' = 1, \mu_2' = 20, \mu_3' = 40$, find μ_3.

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