

Note: attempt any one question from each section Each question carries ten marks. Five marks are for viva voce and five marks are for the practical note book.

SECTION-I

Q. No: 1 Make all possible samples of size 2 with replacement from the population 8,12,16,24. From sampling distribution of sample means and verify that (10)

(i) $u_{\bar{x}} = \mu$ (ii) $\sigma_{\bar{x}}^2 = \frac{\sigma^2}{n}$

Q. No: 2

Two random samples and taken from normal population yielded the following results. Find 95% confidence interval for $\mu_1 - \mu_2$. Also test the hypothesis that the true difference between the population means is 10. (10)

Samples	Size	Means	variance
I	12	10	1200
II	18	25	900

SECTION-II

Q. No: 3

Compute the two regression coefficients and the correlation coefficient. (10)

X	25	30	35	42	55
Y	20	28	32	30	40

Q. No: 4

Find the trend values by the method of least squares. (10)

Year	2000	2001	2002	2003	2004
Sale	29	51	75	61	65