



a)np b)nq c)npq d) None

k) The parameters of binomial distribution are\_ (1)

a)np b)nq c)npq d)none

l) The value of e in normal distribution \_\_ (1)

a)2.7183 b)2.1738 c)3.1416 d)2.7138

m) What percentage of observations lie between  $\mu \pm \sigma$  in normal (1)

distribution ?

a)68.26 b)0.6826 c)95.45 d)68.36

n) Standard normal variate denoted by? (1)

a) $\sigma$  b) $\mu$  c) z d) none

**Attempt any four questions from Q-2 to Q-8**

**Q-2 Attempt all questions (14)**

a) The lengths and weights of five units taken from manufacturing process are given below. Find the correlation coefficient between. (7)

Length	3	4	6	7	10
Weight	9	11	14	15	6

b) Write note on Interpretation of correlation coefficient. (7)

**Q-3 Attempt all questions (14)**

a) Find coefficient of rank correlation. (7)

x	28	27	26	35	39	42	39	37	32	22
y	40	42	38	49	40	50	38	44	45	36

b) The sale and expenditure of 10 companies are given below. Find coefficient of determination between sale and expenditure. (7)

Sale	50	55	55	60	65	65	65	60	60	50
Expenditure	11	13	14	16	16	15	15	14	13	13

**Q-4 Attempt all questions (14)**

a) Find out two lines regression from the following variate table (14)

		Age of X				
		10-20	20-30	30-40	40-50	50-60
Age of Y	15-25	6	3	-	-	-
	25-35	3	16	10	-	-
	35-45	-	10	15	7	-
	45-55	-	-	7	10	4
	55-65	-	-	-	4	5

**Q-5 Attempt all questions (14)**

a) Explain :If A and B are independent events then A' and B' are independent events prove that. (7)



b) If  $P(A)=1/3$  ,  $P(B')=1/4$ , $P(A\cap B)=1/6$  Find  $P(A\cup B)$ , $P(A'\cap B')$  and  $P(A'/B')$  (7)

**Q-6** **Attempt all questions** (14)

a) An unbiased die is thrown. Find the expected value of the number on the die. (7)

b) There are 3 black and 2 White balls in 2 box. Two balls are taken at random from it find the expected number of white balls. (7)

**Q-7** **Attempt all questions** (14)

a) Write note on properties of binomial distribution. (7)

b) Write note on properties of normal distribution. (7)

**Q-8** **Attempt all questions** (14)

a) In a normal distribution mean  $\mu =21.5$  and  $\sigma = 2.5$ , Find the following values. (14)

1) $P\{18\leq x \leq 25\}$  2) $P\{x \geq 28\}$  3) $P\{22\leq x \leq 28\}$  4)  $P\{x \leq 18\}$

