(DBUS05)

Total No. of Questions : 08] **[Total No. of Pages : 02**

M.B.A. DEGREE EXAMINATION, MAY – 2018

First Year

QUANTITATIVE TECHNIQUES FOR MANAGERIAL DECISIONS

Time : 3 Hours **Maximum Marks :70**

SECTION - A

Answer any three of the following questions. **(3 x 5 = 15)**

Q1) a) Explain the properties of matrix multiplication.

b) What is skewness? Explain in detail.

c) Explain marginal and joint probabilities with examples.

d) What is sampling distribution? Give an example.

e) What is the significance of chi-square test in business decision making?

f) What is correlation analysis? Explain its types.

SECTION - B

Answer any three of the following questions. **(3 x 15 = 45)**

Q2) a) If a, b, c are the sums of p, q, r terms respectively of an A.P., then show that $\frac{a(q-r)}{p}+\frac{b(r-p)}{q}+\frac{c(p+q)}{r}=0$.

b) Show that $\lim_{x\to 0}\frac{(1+x)^n-1}{x}=n$.

Q3) Define Date? Explain primary data collection methods in brief.

Q4) a) What are the applications of Binomial distribution.

b) If a random variable X follows Poisson distribution such that P(X = 1) = P(X = 2).
Find
i) the mean
ii) P(X = 0)

Q5) Fit a Poisson distribution for the following data.

x	0	1	2	3	4	5
f	142	165	69	27	5	1

Q6) What is Hypothesis? Explain the procedure of testing of Hypothesis.

Q7) Calculate correlation co-efficient for the following data.

x	9	8	7	6	5	4	3	2	1
y	15	16	14	13	11	12	10	8	9

SECTION - C
(Compulsory) **(10)**

Q8) Calculate the seasonal indices by the method of link relatives for the following data.

Year → / Quarter ↓	1985	1986	1987	1988
Q_1	75	86	90	100
Q_2	60	65	72	78
Q_3	54	63	66	72
Q_4	59	80	85	93

Comment on the results.