(DBUS 05)

M.B.A.(Previous) DEGREE EXAMINATION, MAY 2006
PAPER - V - QUANTITATIVE TECHNIQUES FOR MANAGERIAL DECISIONS

Time: Three hours | Maximum: 75 marks

SECTION - A **(3 X 5 = 15 marks)**

Answer any THREE of the following.

1. (a) Explain different methods of collecting primary data.
   (b) Give any two definitions of probability.
   (c) What is complex conjugate of matrix?
   (d) What is the measeares of dispersion?
   (e) Briefly explain the methods of studying correlation.
   (f) Explain the procedure generally followed in testing of a hypothesis.

SECTION - B **(3 X 15 = 45 marks)**

Answer any THREE of the following.

2. A manufacturer produces 3 products A, B and C which are sold in Delhi and Calcutta. The annual sales of these products are given below:

	A	B	C
Delhi	5,000	7,500	15,000
Calcutta	9,000	12,000	8,700

If the sales prices of the products A, B and C per unit are 2, 3 and 4 respectively. Calculate the total revenue in each centre by using matrix.

3.A stall producing co., produces 'X' tons of stell at a total cost of $c = \frac{x^3}{3} - 7x^2 + 111x + 50$. Find the output levels at which the marginal cost attains its minimum.

4. Consider the following data which relate to the mean daily sales and standard deviation for 3 sales man.

Salesmen	Mean Daily Sales (Rs.)	S.D. (Rs.)
A	86,000	104.5
B	45,000	58.6
C	72,000	95.4

Determine which salesman is most consistant in terms of daily sales.

5. Explain what is meant by an estimate of a population parameter. A random sample of 500 apples was taken from a large consignment and 60 were found to be bad. Obtain the 98% confidence limits for the percentage number of bad apples in the consignment.

6. The average age of students on an M.B.A. course is thought to be 35 years. A sample of 36 M.B.A. students had an average age 37 years with a standard deviation of 6 years. Does the sample support the hypothesis that the average age is 35 years; use a 5% level of significance. If a 1 percent level of significance is considered, what will be the conclusion?

7. Below are given the figures of production (in thousand tones) fertilizer factory:

Year	:	1998	1999	2000	2001	2002	2003	2004
Production	:	70	75	90	98	84	91	100

(a) Fit a straight line trend and find the trend values

(b) What is the monthly icrease in the production of fertilizer?

SECTION - C **(15 marks)**

Compulsory

8. The following data pertains to length of service (in years) ***x*** and annual income (in thousand rupees) ***y*** for a sample of ten employees of an industry:

x :	6	8	8	10	11	12	14	16
y :	14	17	15	18	16	22	25	26

Compute the correlation coefficient and interpret the value.

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