Seat No.	

O - 588

Total No. of Pages : 3

M.B.A. (Part - I) (Semester - I) (CBCS) Examination, May -2015
MATHEMATICS & STATISTICS FOR MANAGEMENT
Sub. Code : 57106

Day and Date :Monday, 25 - 05 - 2015 **Total Marks : 80**

Time : 03.00 p.m. to 06.00 p.m.

Instructions : 1) **Question no. 1 & 5 are compulsory.**

2) **Attempt any two questions from questions no.2 to 4.**

3) **Figures to the right indicated full marks.**

Q1) a) If $A=\begin{bmatrix}1 & 1 & -1\\ 2 & -3 & 4\\ 3 & -2 & 3\end{bmatrix}$ $B=\begin{bmatrix}-1 & -2 & -1\\ 6 & 12 & 6\\ 5 & 10 & 5\end{bmatrix}$ and $C=\begin{bmatrix}-1 & -1 & 1\\ 2 & -3 & 4\\ -3 & -3 & 3\end{bmatrix}$

Show that AB is a null matrix but AC is not a null matrix **[10]**

b) Define correlation, compute Pearsons correlation coefficient between price and demand. **[10]**

Price	:	3	5	4	6	2
Demand	:	3	4	5	2	6

Q2) a) Solve by Cramer's rule **[10]**

$2x + y - z = 3,\ x + y + z = 1,\ x - 2y - 3z = 4$

b) Define coefficient of variation (C - V). **[10]**

Compute Coefficient of variation (C - V) for the following data.

Number of goals	:	0	1	2	3	4
Number of Matches	:	1	9	7	5	3

P.T.O.

Q3) a) Define mean and mode compute mean and median for the following data. **[10]**

Wages (in Rs.):	20-30	30-40	40-50	50-60	60-70
No. of workers:	3	5	20	10	5

b) A farmer barrowed Rs.2400 at 12% p.a. simple interest. At the end of 5/2 years he cleared his load by paying Rs.1200 & a cow. What will be the cost of cow? **[10]**

Q4) a) Define normal distribution.

The marks of 1000 students are normal with mean 20 & S.D. of4. Find the number of students scoring.

i) Less than 16 marks

ii) Between 16 to 23 marks

(Area between z = 0 and z = 1 is 0.3413,

between z = 0 and z = 0.75 is 0.2734) **[10]**

b) A radio manufacturer is planning production of a new type of radio. The fixed cost of setting up the production is Rs. 1,35,000. Variable cost of producing each set is Rs.250. Each unit can be sold for Rs.400. **[10]**

Determine:

i) The cost function

ii) The revenue function

iii) The profit function

iv) The break - even point

Q5) Write Note on (Any four): [20]

a) Laws of probability.

b) Index number.

c) Merits and demerits of median.

d) Requirement of good measures of dispersion.

e) Construction of R Chart.

f) Types of correlation.