Seat No.	

M.B.A. (Part - I) (Semester - I) (CBCS)
Examination, April - 2018
STATISTICS
Quantitative Techniques for Management (Paper - III)
Sub. Code : 68304

Day and Date : Wednesday, 25- 4 - 2018 **Total Marks : 80**

Time : 11.00 a.m. to 2.00 p.m.

Instructions :
1) **Questions No. 1 and 2 are compulsory.**
2) **Attempt any two questions from Questions No. 3 to 5.**
3) **Figures to the right indicate full marks.**
4) **Use non-programmable calculator is allowed.**

Q1) a) What are the requirements of a good average? Calculate mean and median for the following frequency distribution. **[10]**

Weekly Wages :	200-225	225-250	250-275	275-300	300-325	325-350	350-375
No. of Workers :	8	12	23	30	25	15	7

b) Define probability & State their laws. A box contains '6' white & '4' black balls. **[10]**

Two balls are drawn one after the other without replacing the first ball in the box. Find the chance that

i) both the balls are white

ii) first is white & second is black

Q2) a) Explain the types of correlation. Compute Pearson's correlation coefficient between Price (x) and Demand (y). **[10]**

Price :	12	13	14	17	16	14	11
Demands:	20	17	13	11	12	13	22

b) A machine outputs 16 defective articles in a sample of 500 articles. After machine is overhauled, it outputs 3 defective articles in a batch of 100 articles. Has the machine improved? **[10]**

P.T.O.

Q3) a) Define mean deviation and Standard deviation. Compute S.D. and C.V. for the following frequency distribution. **[10]**

class :	15-30	30-45	45-60	60-75	75-90	90-105	105-120
f :	2	8	11	19	15	10	5

b) State equations of two regression lines. If equations of two regression lines are $6Y = 5X + 90$ and $15X = 8Y + 130$ then find **[10]**

i) Means of X & Y

ii) Correlation coefficient between X & Y.

Q4) a) State probability mass function of a Binomial distribution and state its mean & variance. A machine produce 12% defective items. What is the chance that in a sample of 10 items produced by that machine at most one is defective? **[10]**

b) Define

i) Null Hypothesis

ii) One tailed test.

Eight school boys were given a test in Mathematics,. They were given a month's coaching and a second test was held at the end of it. Can it be regarded as coaching benefited the students. **[10]**

[t with 7d.f. = 1.895]

Test I:	18	15	16	20	22	16	17	18
Test II:	20	19	20	20	24	17	20	20

Q5) Short notes on any four **[20]**

a) Absolute & Relative measure of dispersion.

b) Scatter diagram method.

c) Bays Theorem.

d) Chi-square test.

e) Regression.

f) Large sample tests.

X X X