INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
MBA I Semester End Examinations (Regular) - February, 2017
Regulation: IARE–R16
STATISTICS FOR MANAGEMENT
(Master of Business Administration)

Time: 3 Hours   **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) "Statistics helps to predict future course of action in business" Substantiate.   **[6M]**

   (b) Describe the characteristics of statistics in Plural sense.   **[8M]**

2. (a) Describe the need for collecting data in business statistics .   **[6M]**

   (b) State any four Management applications of statistics with one example each.   **[8M]**

UNIT – II

3. (a) The table 1 shows the number of skilled and unskilled operators in two small cities.   **[6M]**

Table 1

Category	City A		City B	
	No	Wage/Hours (Rs)	No	Wage/Hours (Rs)
Skilled	150	180	350	175
Unskilled	850	130	650	125

   Compute average hourly wage for each community and Comment on the difference in the daily wage & the average wage between the cities

   (b) Compute Karlpearson's co-efficient of skewness and comment for following data given in Table 2;   **[8M]**

Table 2

Size	1	2	3	4	5	6	7
Frequency	10	18	30	25	12	3	2

4. (a) Compute the Geometric Mean for the following data given in Table 3;   **[6M]**

Table 3

Marks	0-10	10-20	20-30	30-40	40-50
No of students	5	7	15	25	8

(b) Given the following distribution shown in Table 4,   **[8M]**

Table 4

Class interval	0-15	15-30	30-45	45-60	6-75	75-90	90-105
Frequency	8	26	30	45	20	17	4

Compute Inter quartile range, Quartile deviation and Coefficient of Quartile deviation.

UNIT – III

5. (a) Describe the following data given in Table 5 using histogram.   **[6M]**

Table 5

Variable	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Frequency	5	15	20	25	35	30	15	10

(b) In a sample study about coffee in two towns, the following information was obtained; Town A: Female were 40%, Total coffee drinkers are 45% and male coffee drinkers are 20% Town B: Males were 55%, Male non coffee drinkers were 30% and female coffee drinkers were 15%.Select a suitable data representation table and represent the same .   **[8M]**

6. (a) Describe with an example derived tables used in practice   **[6M]**
    (b) Draw a suitable diagram to represent the following information given in Table 6.   **[8M]**

Table 6

	Selling Price/ Unit	Quantity sold	Unit			
			Wagess	Materials	Misc.	Total
Factory X	400	20	3200	2400	1600	7200
Factory Y	600	30	6000	6000	9000	21000

UNIT – IV

7. (a) Ten cartoons are taken at random from an automatic filling machine. The mean net weight of the 10 cartoons is 11.8 KG and standard deviation is 0.15 kg. Does the sample mean differ significantly from the intended weight of 12 kg? given V=9, t@ 5% significance is 2.26.   **[6M]**

    (b) The number of absenteeism per month in one of the company for past Ten month are 12, 8, 20, 2, 14, 10, 15, 6, 9 and 4 members per month. Is the there a consistency in conditions prevailing to absenteeism using chisquare test.   **[8M]**

8. (a) Write standard one way ANOVA Table format and explain the contents. **[6M]**

(b) Find the correlation between Sales and advertisement expenses incurred during the last 10 months, data is given in Table 7. **[8M]**

Table 7

Advertisement	39	65	62	90	82	75	25	98	36	78
Sales	47	53	58	86	62	68	60	91	51	84

UNIT – V

9. (a) Find the fisher's index for following data given in Table 8. **[6M]**

Table 8

Commodities	Base year		Current year	
	Price per unit(Rs)	Expenditure(Rs)	Price per unit(Rs)	Expenditure(Rs)
A	2	40	5	75
B	4	16	8	40
C	1	10	2	24
D	5	25	10	60

(b) The following results were obtained during the computation of fisher's index. $Ep_0q_0=1040$, $Ep_0q_1=1056$, $Ep_1q_0=1420$, $Ep_1q_1=1448$ Compute the Fisher's index, Factor reversal test and Time reversal test **[8M]**

10. (a) From the following data given in Table 9, find the regression equation X on Y **[6M]**

Table 9

Sales(X)	91	97	108	121	67	124	51	73	111	57
Purchase(Y)	71	75	69	97	70	91	39	61	80	47

(b) Write short note on **[8M]**
   i. Graphic method of Trend Measurement
   ii. Method of Moving Averages