Hall Ticket No | | | | | | | | | | | Question Paper Code: CMBB05

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

MBA I Semester End Examinations (Supplementary) - December, 2018

Regulation: IARE–R18

STATISTICS FOR MANAGEMENT

Time: 3 Hours **(MBA)** **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) Define Statistics and explain the characteristics of Statistics. **[7M]**

   (b) Write the limitations of statistics and its branches of study. **[7M]**

2. (a) Write Short notes on:
   i. Descriptive Statistics
   ii. Inferential Statistics **[7M]**

   (b) What are all the ways Statistics can be misused? **[7M]**

UNIT – II

3. (a) Enlist the characteristics of Mean and Median. **[7M]**

   (b) The following Table 1 gives some frequency data, find Mode using bimodal series. **[7M]**

Table 1

Size of Item	Frequency
10-20	10
20-30	18
30-40	25
40-50	26
50-60	17
60-70	4

4. (a) What are the properties of good Dispersion? **[7M]**

   (b) From the Table 2, calculate the measure of Skewness using the mean, Median and Standard Deviation. **[7M]**

Table 2

X	10 - 20	20 – 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
f	18	30	40	55	38	20	16

UNIT – III

5. (a) Discuss the general rules for drawing graphs and diagram. **[7M]**

   (b) Construct a bargraph to compare the growth of sex-ratio in different state from the Table 3. **[7M]**

Table 3

States / UT	1961	1971	1981	1991	2001
Delhi	785	801	808	827	821
Haryana	868	867	870	860	846
Uttar Pradesh	907	876	882	876	898

6. (a) Write short notes on: **[7M]**
   i. Histogram
   ii. Pie Chart
   iii. Scatter Diagram

   (b) Draw a multiple bar diagram for the following data in table 4. **[7M]**

Table 4

Literacy Rate Year	Total Population	Male	Female
1951	18	27	8
1961	28	40	15
1971	34	45	21
1981	43	56	29
1991	52	64	39
2001	64	75	54

UNIT – IV

7. (a) List out the procedure in one way ANOVA. **[7M]**

   (b) A company keeps a records of accidents as in Table 5. During a recent safety review, a random sample of 60 accidents was selected by the day of the week on which they occurred.T Test whether there is any evidence that accidents are most likely on some days than other.

   [7M]

Table 5

Day	MON	TUE	WED	THU	FRI
No of accidents	8	12	9	14	17

8. (a) Calculate the Rank Coefficient of Correlation from the following data given in Table 6: **[7M]**

Table 6

X	75	88	95	70	60	80	81	50
Y	120	134	150	115	110	140	142	100

(b) The data on price and quantity purchased relating to a commodity for 5 months is given below in Table 7:

[7M]

Table 7

Month	January	February	March	April	May
Prices(Rs)	10	10	11	12	12
Quantity(Kg)	5	6	4	3	3

Find the Pearson Correlation Coefficient between prices and quantity and comment on its sign and magnitude.

UNIT – V

9. (a) Explain the characteristics and uses of index number. **[7M]**

(b) The following Table 8 shows the number of motor registrations in a certain territory for a term of 5 years and the sale of motor tyres by a firm in that territory for the same period. Find the Regression equation to estimate the sale of tyres when the motor registration is known. Estimate sale of tyres when registration is 850.

Table 8

Year	Motor Registrations	No of Tyres sold
1	600	1250
2	630	1100
3	720	1300
4	750	1350
5	800	1500

[7M]

10. (a) Below in Table 9 are the figures of production (in thousand quintals) of a sugar factory: **[7M]**

Table 9

Year	1992	1993	1994	1995	1996	1997	1998
Production	80	90	92	83	94	99	92

i. Fit a straight line trend to these figures.

ii. Plot these figures on a graph and show the trend line.

iii. Estimate the production in 2001.

(b) Given are the following price-quantity data in Table 10, with price quoted in Rs per kg and production in qtls. **[7M]**

Table 10

Item	1980		1985	
	Price	Production	Price	Production
Fish	15	500	20	600
Mutton	18	590	23	640
Chicken	23	450	24	500

Find

i. Laspeyre's Price Index for 1985, using 1980 as the base

ii. Laspeyre's Quantity Index for 1985, using 1980 as the base

iii. Paasche's Price Index for 1985, using 1980 as the base

iv. Paasche's Quantity Index for 1985, using 1980 as the base