

MBA (DM/PP/EM/BEPP) Sem.-1 Examination

EPF-108

BE

January-2024

Time : 2-30 Hours]

[Max. Marks : 70

Q.1 Define the following:

(14)

- a) Applied Statistics
- b) Level of significance
- c) Mesokurtic curve
- d) Coefficient of determination
- e) Poisson distribution
- f) Inferential Statistics
- g) Bernoulli trial

Q.2 From the following frequency distribution obtain the first four moments about '12' and hence, find central moments, and mean, standard deviation, skewness and kurtosis. Also find \bar{X}_1 and \bar{X}_2 . (14)

Xi	10	11	12	13	14	15	16	Total
Fi	2	9	25	30	20	10	4	100

Or

Q.2 The marks obtained by students in a particular subject are given below. Find: (14)

- a) Bowley's coefficient of skewness
- b) Kelly's coefficient of skewness
- c) Coefficient of Quartile deviation

Marks	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79
Freq.	13	8	3	4	17	25	22	8

Q.3 A brokerage survey reports that 30 percent of individual investors have used a discount broker, i.e., one which does not charge the full commission. In a random sample of 9 individuals, what is the probability that (14)

- a) Exactly two of the sampled individuals have used a discount broker?
- b) Not more than three have used a discount broker
- c) At least three of them have used a discount broker

Or

Q.3 Assume that the test scores from a college admissions test are normally distributed with a mean of 450 and standard deviation of 100. (14)

- a) What percentage of people taking the test score are between 400 and 500?
- b) Suppose someone received a score of 630. What percentage of the people taking the test score better? What percentage score worse?
- c) If a particular university will not admit any one scoring below 480, what percentage of the persons taking the test would be acceptable to the university?

P.T.O

Q.4 Find the coefficient of regression in matrix form from the following table and fit in the model: (14)

X1	X2	Y
4	7	5
5	6	3
6	3	2
7	4	4

Or

Q.4 From the following tri-variate data, obtain regression coefficient equation of X3 on X1 and X2 (14)
and estimate the value of X3 when X1 = 25 and X2=8

X3	3	3	4	5	2	3
X1	12	14	16	20	12	13
X2	6	7	4	7	3	3

Q.5 The city council of Ahmedabad, Mumbai, has gathered data on the number of minor traffic accidents and number of youth games that occur in the city over a weekend. (14)

Minor Accidents (X)	20	30	10	15	12	34	25
Youth games (Y)	7	8	6	9	5	4	3

- Calculate the standard error of the estimate.
- Obtain R square for the model fitted and comment on its value.
- Test the hypothesis that the slope is zero against it is not zero using ANOVA method. (F tab = 7.70)
- Construct 95% confidence interval for the slope. (t tab= 2.776)

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