

M.A. ECONOMICS PROGRAMME
SEM-II-CC-9-STATISTICAL METHODS
QUESTION BANK (MODEL QUESTIONS)

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LONG QUESTIONS

Module 1

1. The following table gives the marks obtained by a set of 140 students in a certain examination. Calculate the average marks per student.

Marks	Cumulative frequency c.f.
More than 10	140
More than 20	133
More than 30	118
More than 40	100
More than 50	75
More than 60	45
More than 70	25
More than 80	9
More than 90	2
More than 100	0

2. Calculate the standard deviation and coefficient of variance from the following data:

Size of item	Frequency
6	3
7	6
8	9
9	13
10	8
11	5
12	4

3. Discuss the different methods of sampling techniques. Which method of sampling is more reliable?
4. Explain median as a measure of central tendency. Also discuss its merits and demerits.

Module 2

1. Calculate Coefficient of Correlation between the values of X and Y.

Values of X	Values of Y
50	11
50	13
55	14
60	16
65	16
65	15
65	15
60	14
60	13
50	13

2. What is correlation? Discuss its different types. Also explain the relevance of a correlation coefficient
3. From the following data, obtain the two regression equations using the method of Least Squares.

X	Y
2	5
4	7
6	9
8	8
10	11

Module 3

1. "Fisher's index number is considered as an ideal index number." Discuss.
2. The following data relate to the prices and quantities of 4 commodities in the years 1982 and 1983. Construct the Laspeyre's and Paasche's Index numbers for the year 1983 taking 1982 as the Base year.

Commodity	1982		1983	
	Price	Quantity	Price	Quantity
A	5	100	6	150
B	4	80	5	100

C	2.5	60	5	72
D	12.0	30	9	33

Module 4

1. Define Binomial and Normal distribution; also find its mean and variance.
2. i) State and explain the concept of conditional probability.
ii) Four cards are drawn at random from a pack. Find the probability that they are a King, a Queen, a Jack and an Ace?

Module 5

1. What is a hypothesis? Explain the various steps involved in hypothesis testing.
2. What do you understand by an estimator? State and explain desirable properties of a good estimator.

Module 6

1. Explain the different components of a Time-Series Data.
2. Estimate the trend value using the data given below by taking a four-yearly moving average :

Year	Value
1964	12
1965	25
1966	39
1967	54
1968	70
1969	87
1970	105
1971	100
1972	82
1973	65
1974	49
1975	34
1976	20
1977	7

SHORT QUESTIONS

Module 1

1. Distinguish between Census and Sampling Method.
2. Discuss the merits and demerits of measure of dispersion.
3. Discuss Karl Pearson's Coefficient of Skewness.

Module 2

1. Prove that the coefficient of correlation lies between (-1) and (+1).
2. What do you mean by regression? State the properties of regression coefficients.
3. Two judges in a beauty contest rank the 10 entries as follows:

Entries	Judge 1	Judge 2
A	1	6
B	6	8
C	3	3
D	9	7
E	5	2
F	2	1
G	7	5
H	10	9
I	8	4
J	4	10

Determine Spearman's rank correlation coefficient.

Module 3

1. Define Index Numbers. Discuss its uses.

2. Write a note on Cost of Living Index Numbers.

Module 4

1. Explain the Addition theorem of Probability.
2. Define Poisson Distribution and discuss its properties.

Module 5

1. Distinguish between Null and Alternative Hypothesis.
2. Explain the concept of one-tailed and two-tailed test as used in hypothesis testing

Module 6

1. Define Time Series. Explain the utility of Time Series Analysis.
 2. Distinguish between linear and non-linear trend.
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