

MA ECONOMICS
SECOND SEMESTER
STATISTICS
MEC – 203

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1.30 hrs.

Full Marks: 35

Time: 15 mins.

(Objective)

Marks: 10

Choose the correct answer from the following:

1×10=10

- An event in the probability that will never be happened is called as:
 - Unsure event
 - Sure event
 - Possible event
 - Impossible event
- What will be the value of P(not E) if P(E)=0.07?
 - 90
 - 007
 - 93
 - 72
- Performing an event once is called:
 - Sample
 - Trial
 - Error
 - None
- The mean of the data is:
 - 2
 - 2.2
 - 2.4
 - 2.8
- Which of the following are types of correlation?
 - Positive and Negative
 - Simple, Partial and Multiple
 - Linear and Non-Linear
 - All of the above
- The original hypothesis is known as:
 - Alternative Hypothesis
 - Null Hypothesis
 - Both a and b
 - None
- An analysis of the relationship between two variables to help provide the prediction mechanism is known as:
 - Standard error
 - Correlation
 - Regression
 - None
- The independent variable is used to explain the dependent variable in:
 - Linear regression analysis
 - Multiple Regression analysis
 - Non-Linear Regression Analysis
 - None

9. The correlation coefficient is:
- a. The square of the coefficient of determination
 - b. Can never be negative
 - c. The square root of the coefficient of determination
 - d. Same as r-square
10. Choose the correct example for positive correlation:
- a. Weight and Income
 - b. Price and Demand
 - c. Payment and EMI
 - d. Income and Expenditure

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(Descriptive)

Time : 1 Hr. 15 Mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

1. State the difference between Correlation and Regression. 5

2. Define Karl Pearson's Correlation coefficient. Find the correlation coefficient between advertising expenses and sales value using Karl Pearson's method 10

| firm | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------|----|----|----|----|----|----|----|----|----|----|
| Adv. Expn | 11 | 13 | 14 | 16 | 16 | 15 | 15 | 14 | 13 | 13 |
| Sales | 50 | 50 | 55 | 60 | 65 | 65 | 65 | 60 | 60 | 50 |

3. Describe the elements of probability. Two dice are rolled. Find the probability that the sum is equal to 1, equal to 4 and less than 13. If a random variable X takes the value 1,2,3 with probability $P(X=r)=r/6; r=1,2,3$. 10

Find

i) $E(x)$,

ii) $var(x)$,

iii) $Var(2x+3)$

4. The Following table gives the demand and price for a commodity for 6 days- 10

| | | | | | | |
|--------|----|----|----|----|----|----|
| Price | 4 | 3 | 6 | 9 | 12 | 10 |
| Demand | 46 | 65 | 50 | 30 | 15 | 25 |

Obtain the value of co-efficient of determination and compute the standard error of estimate.

5. What is hypothesis? State and describe the various types of hypothesis. 10
What are two types of error? Describe Goodness of fit test.

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