

MA EDUCATION
SECOND SEMESTER
STATISTICS IN EDUCATION
MAE – 205

**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

- Which of the following is a characteristic of a normal distribution?
a. Skewed tails
b. Mean, median, and mode are not equal
c. Symmetric shape
d. Total area under the curve is less than 1
- Which statistical measure describes the spread of data in a normal distribution?
a. Mean
b. Standard deviation
c. Median
d. Mode
- Which statistical measure is used to quantify the asymmetry of a distribution?
a. Skewness
b. Kurtosis
c. Standard deviation
d. Mean
- Which statistical test is used to determine if there is a significant difference between two means?
a. t-test
b. ANOVA
c. Chi-square test
d. Z-test
- What is the purpose of conducting a post-hoc test after finding a significant difference between means with ANOVA?
a. To confirm the null hypothesis
b. To identify which specific groups have significant differences
c. To calculate effect size
d. To determine the variance of the dataset
- Which of the following is an assumption of the chi-square test?
a. The sample sizes are equal
b. The data are normally distributed
c. The observations are independent
d. The groups being compared are identical
- In a chi-square test, the null hypothesis states that:
a. There is no difference between observed and expected frequencies
b. There is a significant difference between observed and expected frequencies
c. The data are normally distributed
d. The sample sizes are equal

8. What is the purpose of a regression line in statistical analysis?
- a. To connect data points in a scatter plot
 - b. To represent the relationship between two variables
 - c. To identify outliers in a dataset
 - d. To calculate the mean of the dependent variable
9. In a simple linear regression, how many variables are involved?
- a. One
 - b. Two
 - c. Three
 - d. Four
10. What is the main advantage of using a scatter diagram?
- a. It provides a summary statistic for the data
 - b. It identifies outliers in the dataset
 - c. It calculates the variance of the dataset
 - d. It allows for the visualization of relationships between variables

(Descriptive)

Time : 1 Hr. 15 Mins.

Marks : 25

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

1. Write a short note on the topic of Scatter Diagram. 5
2. What do you mean by normal probability curve? Discuss various properties of normal probability curve. 10
3. The data of two independent groups of secondary school students in mathematics have been put as under: 10

Group	N	Mean	SD
A	40	38.42	8.60
B	60	43.51	13.35

Is the difference between the two groups significant at 0.05 level?

4. A five rupees coin is tossed for 100 times & the observed frequencies 60 heads and 40 tails, using the chi-square test and find out whether this result better than mere chance? 10
5. The aim of an experimental study was to determine the effect of three different techniques of training on the learning of a particular skill. Three groups, each consisting of seven students of class IX assigned secondary were given training through these different techniques. This scores obtained on a performance test were recorded as follows: 10

Group-I	Group-II	Group-III
3	4	5
5	5	5
3	3	5
1	4	1
7	9	7
3	5	3
6	5	7

Test the difference between groups by adopting the analysis of variance technique.

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