

- (c) Define Spearman rank correlation
(d) Write the general syntax of VLOOKUP function.

14. Answer any one question from the following or

- (a) Differentiate between logical operators and relational operators in Excel with an example.
(b) Explain how to calculate correlation coefficient for the data present in cells A1 to A10 and C1 to C10.

15. Answer any one question from the following:

- (a) Explain with an example how to use VLOOKUP to merge two data sets in Excel.
(b) Write down the formula for computing Spearman rank correlation. Explain different steps to compute Spearman rank correlation in Excel.

FYUG Odd Semester Exam., 2025

STATISTICS

(1st Semester)

Course No. : STADSM-101T

(Basic Statistics and Probability)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any two questions from the following : 2×2=4

- (a) What is frequency distribution?
(b) Define qualitative and quantitative data.
(c) State any two uses of statistics.

(2)

2. (a) Write a note on graphical representation of ogive.

(b) Distinguish between nominal, ordinal and time-series data.

OR

3. Define any two methods of data collection. Define four methods of data presentation techniques.

UNIT—II

4. Answer any two questions from the following :

(a) What are the requisites for an ideal measure of central tendency?

(b) Define raw and central moments.

(c) Write one merit and demerit of mean.

5. Describe different measures of dispersion and mention their uses.

OR

6. Define the following :

(a) Coefficient of variation

(b) Skewness

(c) Standard deviation

(d) Kurtosis

2½×4=

(3)

UNIT—III

from the 2×2=4

any two questions

Answer :
4. Mention the uses of scatter plot and following :

(a) Mentioning association.
(d) measuring two independent variables

Show that two independent variables are uncorrelated.

(b) Show the angle between the two lines of regression.

(c) Find the angle between the two lines of regression. Derive their equation
3+7=10

8. What is regression? Derive their equation and their interpretation.

OR

2½×4=10

9. Write notes on the following :

(a) Least square method

(b) Multiple correlation

(c) Regression coefficient

(d) Correlation coefficient

UNIT—IV

10. Answer any two questions from the following :
2×2=4

(a) Define mutually exclusive and exhaustive events.

(b) Define sample point and sample space.

(c) Write the axiomatic definition of probability.

(Turn Over)

OR
Theorem.

12. (a) Define equally likely

Define equally likely event impossible events by giving an example.

(b) If $B \subset A$, then show that—

(iv) $P(A \cap B) = P(A) - P(B)$;

(iv) $P(B) \leq P(A)$.

UNIT—V

13. Answer any two questions from the following :

- (a) Define conditional probability.
- (b) Define independent and pairwise independent events.
- (c) State the theorem of compound probability.

14. (a) State and prove the addition theorem of probability.

- (b) If A and B are independent events, then show that A and $\bar{B}$ are also independent.

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state and prove Bayes two

(a) Show that for any

(b) A and B

$P(A \cap B) \leq P(A) \leq P(A \cup B) + P(B)$

★ ★ ★

