

2024**FYUGP B. Sc 3rd Semester Examination****Subject : Statistics****Paper : SEC0301203****(Statistical for Data Analysis using Software Package)**Time : $1\frac{1}{2}$ Hours

Full Marks : 45 30

1. Answer the following questions as directed : 1x5=5

- (a) If all the units of a population are surveyed, it is called census. (State True or False)
- (b) The hypothesis which is under test for possible rejection is called ____ hypothesis. (Fill in the blank)
- (c) Data taken from a journal is called ____ data. (Fill in the blank)
- (d) Probability of type I error is called level of Significance. (State True or False)
- (e) If the correlation coefficient is zero, the value of regression coefficient is ____ (Fill up the blanks)

2. Answer any five from the following questions: 2x5=10

- (a) Define null and alternative hypothesis.
- (b) Define type -I and type - II error in testing of hypothesis.
- (c) Mention two differences between sample survey and complete enumeration.
- (d) Define Simple Random sampling and mention its types.
- (e) What do you understand by co-relation between two variables?

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- (f) Define sample and population.
- (g) Write the test statistic for test of significance for single mean of a large sample.
- (h) Write the test statistic for test of significance for single mean of a small sample.
- (i) Show that two independent variables are uncorrelated.
- (j) Compare between table and diagram.

3. Answer any three from the following questions: 5x5=15

- (a) Prove that the correlation coefficient 'r' lies between -1 and 1.
- (b) What are the advantages of sample survey over census survey?
- (c) Write brief notes on sampling error and non sampling error.
- (d) Write a note on lines of regression.
- (e) Show that sample mean (\bar{x}) is unbiased estimate of the population mean (μ).
- (f) For small sample, how will you test the significance for single mean?

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