

Total marks 100

Time duration 90 mints

Note: Attempt as many question as you can.

- Q:-1 given two values x_1 and x_2 prove that $A.M. \geq G.M. \geq H.M$?
- Q:-2 Define quadratic mean. When do you prefer a quadratic mean than a arithmetic mean?
- Q:-3 Describe the role of mean-squared error in estimation theory?
- Q:-4 Define the best asymptotically normal estimators and throw light on its implications?
- Q:-5 Give the idea of minimal sufficient statistics?
- Q:-6 What properties of estimators are being usually held by maximum likelihood estimators?
- Q:-7 Discuss power of a test and power function?
- Q:-8 Throw light on the role of degrees of freedom, and give its definition?
- Q:-9 What do you understand by optimum test?
- Q:-10 Name different properties of a test?
- Q:-11 What are the assumptions about t -test?
- Q:-12 The average life of electric bulbs is 1600 hours with S.D. = 112 hours. It is desired that 95 percent bulbs should not fall short of the average life by more than 1 percent, the required sample size is_____?
- Q:-13 How will you test the significance of the correlation coefficient R_{he} ?
- Q:-14 Highlight the advantages of stratified sampling?
- Q:-15 Differentiate among Binomial, Negative Binomial, Geometric random variables?
- Q:-16 What is difference between Weak and Strong Stationary Process?
- Q:-17 Write a note on Multicollinarity?