

**School of Liberal Education****Bachelor of Arts Honours in Economics  
Semester End Examination - Jun 2024****Duration : 180 Minutes  
Max Marks : 100****Sem II - K1UB203C - Advance Statistics***General Instructions**Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) What do you understand by permutation? K1(2)
- 2) Explain how to calculate a confidence interval for the difference between two population means. K2(4)
- 3) Find the parameters (n and p), of a binomial distribution which has mean equal to 6 and standard deviation equal to 2. K2(6)
- 4) Define a random variable and its mathematical expectation. K3(9)
- 5) Discuss the situations in which a two-independent-sample t-test is appropriate. K3(9)
- 6) Calculate a one-sample z-test statistic and interpret its significance. K5(10)
- 7) Calculate a 99% confidence interval for a population proportion, given a sample proportion and sample size. K4(12)
- 8) What is binomial distribution ? State its important properties. K5(15)
- 9) Calculate a 98% confidence interval for the difference between two population proportions, given sample proportions and sample sizes for two independent samples. K5(15)
- 10) A bag contains 20 tickets marked with numbers 1 to 20. One ticket is drawn at random. What is the probability that it will be a multiple of (i) 2 or 5, (ii) 3 or 5. K6(18)