



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.A./B.Sc. Honours 4th Semester Examination, 2023

CC10-ECONOMICS (410)

Time Allotted: 2 Hours

Full Marks: 60

The figures in the margin indicate full marks.

GROUP-A

1. Answer any **four** questions: 3×4 = 12
- (a) Define discrete and continuous random variables.
 - (b) What is stratified sampling?
 - (c) What are the assumptions of a Classical Linear Regression Model?
 - (d) State the Bayes' theorem.
 - (e) What is Standard Normal variate?
 - (f) State the concept of Gauss-Markov theorem.

GROUP-B

Answer any four questions

6×4 = 24

- 2. State and prove the theorem of compound probability.
- 3. Name any four types of sampling techniques. Explain about the same in detail.
- 4. A bag contains 8 white and 3 red balls. If two balls are drawn at random, find the probability that (i) both are white (ii) both are red (iii) one is of each colour.
- 5. Prove that Poisson distribution is a limiting case of Binomial Distribution.
- 6. Discuss the properties of ordinary least square Estimators.
- 7. What are the various assumptions and functions of 't' test?

GROUP-C

Answer any two questions

12×2 = 24

- 8. What are the properties of Normal Distribution? Prove that in case of Normal Distribution mean = median = mode.
- 9. Enumerate the principal steps followed generally in a sample survey.
- 10. What is Chi-square test? For what purpose χ^2 test of significance is used?
- 11. A book contains 100 misprints distributed randomly throughout its 100 pages. What is the probability that a page observed at random contains at least two misprints? Assume that it follows Poisson distribution.

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