



'সমানো মন্ত্র: সমিতি: সমানী'

**UNIVERSITY OF NORTH BENGAL**

B.Sc. Programme 5th Semester Examination, 2021

**DSE1/2/3-P1-STATISTICS**

Time Allotted: 2 Hours

Full Marks: 60

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

1. Answer any **four** questions from the following: 3×4 = 12
  - (a) Why do we need standardized death rate?
  - (b) What are the methods of census taking?
  - (c) Define experimental unit and experimental error.
  - (d) Explain the terms AQL and LTPD as used in statistical quality control.
  - (e) Why Latin square design is known as incomplete 3-way layout?
  - (f) What are producer's risk and consumer's risk in product control?
  
2. Answer any **four** questions from the following: 6×4 = 24
  - (a) Write a short note on different components of time series.
  - (b) Describe briefly the objectives of Indian Statistical system.
  - (c) Explain clearly process and product control.
  - (d) Write a short note on rational subgroup.
  - (e) Write a short note on factorial experiment.
  - (f) Describe different functions available in a life table and the relation among them.
  
3. Answer any **two** questions from the following: 12×2 = 24
  - (a) What are the three basic principles of design of experiment? Explain them.
  - (b) Starting from a suitable assumption regarding the relative growth rate of population, derive the logistic equation. Discuss the important properties of the logistic curve.
  - (c) Describe the construction of control charts for mean and fraction defective from appropriate data when standards are given and when standards are not given.
  - (d) Describe the layout and analysis of a Latin square design and discuss its merits and demerits.

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