UNIVERSITY OF NORTH BENGAL

B.Sc. Programme 5th Semester Examination, 2023

DSE1/2/3-P1-STATISTICS

APPLIED STATISTICS

Time Allotted: 2 Hours   Full Marks: 60

The figures in the margin indicate full marks.

1.   Answer any **four** questions from the following: 3×4 = 12

 (a) What are the advantages and disadvantages of completely randomised design?

 (b) What are the different measures of population growth?

 (c) What do you mean by statistical quality control?

 (d) What is factorial experiment?

 (e) What are the methods of census taking?

 (f) Explain the terms AQL and LTPD as used in statistical quality control.

2.   Answer any **four** questions from the following: 6×4 = 24

 (a) Explain clearly process and product control.

 (b) Describe functions available in a life table and the relation among them.

 (c) Write the uses of life table.

 (d) Define gross reproduction rate and net reproduction rate, and show that the former is larger than the latter.

 (e) The following are the number of defects noted in 20 hundred-yard pieces of woolen goods:

       3, 3, 6, 3, 0, 1, 3, 5, 7, 8, 4, 10, 5, 5, 4, 3, 4, 5, 4, 1

 Find $\bar{c}$ and control limits for the number of defects.

 (f) What is Latin square design? Why it is called incomplete 3-way layout?

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) Derive the logistic equation. Discuss the important properties of a 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 randomised block design. Discuss its merits and demerits.

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