



UNIVERSITY OF NORTH BENGAL

B.Sc. General Part-III Examination, 2021

STATISTICS

PAPER-VII (NEW SYLLABUS)

Full Marks: 65

ASSIGNMENT

The figures in the margin indicate full marks.

1. Answer **all** questions: 1×10 = 10
 - (a) What is design of experiment?
 - (b) Why LSD is called incomplete 3 way layout?
 - (c) What is statistical quality control?
 - (d) What is producer's risk?
 - (e) What is consumer's risk?
 - (f) What is index number?
 - (g) What is cyclical fluctuation?
 - (h) What is process control?
 - (i) What is product control?
 - (j) What is time series?

2. Answer **all** questions: 6×4 = 24
 - (a) Write a short note on rational subgroup.
 - (b) What is Randomized Block Design? Write down the advantages and disadvantages of the design.
 - (c) Write a short note on Ratio to moving average method.
 - (d) Define gross reproduction rate and net reproduction rate, and show that the former is larger than the later.

3. Answer **all** questions: 8×2 = 16
 - (a) What are the basic principles of design of experiment? Explain them.
 - (b) Describe the construction of control charts for mean and fraction defective from appropriate data when standards are given and standards are not given.

4. Answer **all** questions:
 - (a) Derive the expression for consumer's risk, producer's risk, ASN, ATI, AOQ and OC curve for single sampling inspection plan. 8
 - (b) Give the mathematical model assumed in L.S.D and explain the analysis of variance table used for analyzing the results of such an experimental design. 7

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