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1804E080

Candidate's Seat No : _____

M.Sc. Sem-4 Examination

510

Statistics

April 2022

Time : 2-00 Hours]

[Max. Marks : 50

INSTRUCTIONS:

- ALL QUESTIONS IN SECTION 1 CARRY EQUAL MARKS.
- ATTEMPT ANY THREE QUESTIONS IN SECTION-I.
- SECTION-II IS COMPULSORY WITH INTERNAL OPTIONS.

SECTION-I

ATTEMPT ANY THREE QUESTIONS FROM THE FOLLOWING: [42]

- Q-1:** Explain the method of data collection in environmental statistics. Also explain the characteristics of measurement scale of environmental data with example. [14]
- Q-2:** What is Environmental Statistics? Explain the significance of statistics in environmental conservation as one of the sustainable development goals. [14]
- Q-3:** Explain the Lotka Volterra Model in environmental studies. [14]
- Q-4:** Describe the Leslie Matrix Model under ecological perspective. [14]
- Q-5:** Define Primary and Secondary Environmental Data. Differentiate between them. [14]
- Q-6 (A):** Write a note on the Point Source Stream Pollution Model. [07]
- Q-6 (B):** Explain the statistical model for air pollution from environmental perspective. [07]
- Q-7:** Explain "Design of Experiments" in Environmental Studies. Also emphasize on Randomisation, Replication and Local Control in such experiments. [14]
- Q-8 (A):** Explain the significance of correlation and regression in environmental studies. [07]
- Q-8 (B):** Explain Spearman's Rank Correlation Method. State its merits and demerits from environmental perspective. [07]

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SECTION-II

Q-9 ANSWER IN SHORT: [ANY 8]

[08]

- A. Define Environmental Inferential Research Approach.
 - B. State any one limitation of chi square distribution for environmental studies.
 - C. Give an example of environmental data.
 - D. State any two statistical tools for data analysis in environmental statistics.
 - E. State any one use of Poisson distribution in environmental statistics.
 - F. What do you mean by formal experimental design in environmental statistics?
 - G. State any one measure to deal with air pollution.
 - H. State any one measure to deal with soil erosion.
 - I. State any one assumption for predator prey model.
 - J. Leslie Model is similar to _____.
 - K. Say True or False: Euler Lotka equation in environmental studies gives the intrinsic growth rate.
 - L. Identify the terms in the equation $n_{t+1} = L n_t$
 - M. Define Hypothesis in environmental research.
 - N. Define Type I error in environmental statistics.
 - O. Define Environmental Sampling.
 - P. Define Correlation from environmental perspective.
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