

35152

M.Sc. DEGREE EXAMINATION, OCTOBER / NOVEMBER 2018.

THIRD SEMESTER

Statistics

Paper II — COMPUTER - INTENSIVE STATISTICAL METHODS

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Give a note on distributions.
2. Differentiate between stochastic simulation and simulating stochastic process.
3. What is variance reduction.
4. What is optimization.
5. What is boot strapping.
6. What is resampling.
7. What is cross validation.
8. List the parameters being used in tuning.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Explain the concept of simulating the multivariate distributions with an illustration.

Or

10. Explain the process of stochastic simulation as simple queues.
11. Discuss the importance of sampling for integration in variance reduction.

Or

12. Explain the concept of Gibbs sampling for multivariate simulation with an illustration.

13. Explain about the various methods bootstrapping.

Or

14. Discuss the advantages and disadvantages and applications of bootstrapping.

15. How jackknife can be used in sample surveys? Explain with an example case study.

Or

16. How the cross validation can be applied for tuning parameters? Explain with an example case study.

