45154

M.Sc. DEGREE EXAMINATION, APRIL 2018.

Statistics

FOURTH SEMESTER

Paper IV — ACTUARIAL STATISTICS

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. What is Accumulation factors?
2. Define the Present value of the cash flows.
3. Give the Assumptions for fractional ages.
4. What are the Application of insurance?
5. Define Continuous life annuities.
6. What is Recursions?
7. Define Evaluation for special mortality laws.
8. What is Annuity benefits through multiple life functions?

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Derive stoodley formula for the force of interest. Find the force of interest which is equivalent to 5% compounded daily.

Or

10. Explain Basic compound interest function and equations of values and yield on transaction annuities certain with examples.

11. Explain the recursion formulas and assumptions for fractional ages. Explain its relation with other mortality.

Or

12. Explain life table and its relation with survival function. Define force of mortality and obtain its relationship with survival function.

13. Describe about life insurance and its uses. Derive the mean and variance of a present value of limit due to end of n year.

Or

14. Explain life annuities with monthly payments. Give some examples with uses.

15. Describe multiple life functions. Explain the concept and utility of MWRR with some examples.

Or

16. Derive central force assumptions for multiple decrements. How do you compare two Investments project, explain with an illustration?
