M.Sc. DEGREE EXAMINATION,NOVEMBER 2018
II Year III Semester
Core Major -IX
SURVIVAL ANALYSIS

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. What is censored mean in survival analysis?
2. Define bathtub failure rate.
3. Define exponential Gamma distribution.
4. Write short notes on confidence interval for survival analysis.
5. Define Pareto distribution.
6. Define Kaplan-Meier estimator.
7. Define log rank test.
8. Explain the concept of Time and Event.
9. Why do we use semi parametric models in Survival Analysis?
10. What are the PH assumptions?
11. Define New Better than Used (NBU) in survival analysis.
12. Write the expansion of HNBUE life time distribution.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Describe different ageing classes of life time distribution.
14. Explain log logistic distribution.
15. Explain (i) Survival (ii) Hazard and (iii) density functions.
16. Derive the Wilcoxan - Gehans test for surival analysis
17. Derive non parametric Time varying coefficient model.
18. Distinguish between order and Random Censoring.
19. Explain linear failure rate in survival analysis.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Derive mean and median residual life and their elementary properties.

21. Explain partial likelihood estimation.

22. Derive the model for Mantel - Haentzel Test.

23. Explain semi parametric modeling in survival Analysis.

24. Explain the methods of constructing life table in survival analysis.

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