

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN  
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)  
Chromepet, Chennai — 600 044.

M.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021

SEMESTER - III

20PBSCT3009 - Survival Analysis

|                               |                 |                         |
|-------------------------------|-----------------|-------------------------|
| <b>Total Duration : 3 Hrs</b> |                 | <b>Total Marks : 75</b> |
| MCQ                           | : 30 Mins       | MCQ : 15                |
| Descriptive                   | : 2 Hrs.30 Mins | Descriptive : 60        |

Section B

Answer any **SIX** questions ( $6 \times 5 = 30$  Marks)

1. Explain various distribution of survival function.
2. Prepare a short note on Median Survival life time.
3. What is Ageing in classes? Explain bath tub curve.
4. Derive Survival Rate, Hazard rate for weibull distribution.
5. Write a short note on Linear Failure Rate.
6. Derive an expression for Maximum Likelihood estimation in survival analysis.
7. Describe Mantel-Hanzel test with an example.
8. Discuss Extended Cox Model for time dependent variable.

Section C

Part A

Answer any **TWO** questions ( $2 \times 10 = 20$  Marks)

9. Explain briefly about Censoring and its types.
10. Explain Kaplan-Meier estimator and its applications.
11. Explain Tarone-ware test
12. Explain Cox-Proportional Hazard model.

Part B

Compulsory question ( $1 \times 10 = 10$  Marks)

13. Explain the Gehan's generalized Wilcoxon test.