PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BCom DEGREE EXAMINATION DECEMBER 2019
(Fifth Semester)

Branch - COMMERCE (BUSINESS ANALYTICS)

ACTUARIAL STATISTICS

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks   (1 0 x 2 = 20)

1   Define Demography.
2   Define crude death rate.
3   Write any two columns of life table.
4   What do you meant by the term migration?
5   What is population projection?
     Define stationery population.
     Define survival parameters of exponential distribution.
     State the characteristics of the log normal distribution.
     What is survival function?
10   Why is log rank test is more standard?

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Explain^nfant mortality rate.
                          OR
    b Compute Crude death rate of two population A and B.

i Age group	Population (A)	Deaths (A)	Population (B)	Deaths (B)
Under 10	20000	600	12000	372
10-20	12000	240	30000	660
20-40	50000	1250	62000	1612
40-60	30000	1050	15000	525
Above 60	10000	500	3000	180

12 a Explain the uses of life tables.
                          OR
    b Explain gross and net migration rates.

13 a Explain population projection in detail.
                          OR
    b Explain stationery and stable population.

14 a Explain Weibul model for failure data.
                          OR
    b Explain Gamma model for failure data.

15 a Explain Kaplan-Meier estimator.
                          OR
    b Explain the concept of survival function.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16   Lit the source of demographic data and explain registration and survey method
     in detail.

17   Explain the description and construction of various columns of life table.

18   Explain arithmetic and geometric growth rates.

19   Define the survival parameters of normal models for failure data.

20   Explain Gehan and Toe rank tpct