

## **Stat-425 Actuarial Statistics**

**50 Marks: 02 Credits**

**Number of Class: 20-26**

The meaning of actuarial science, its relationship with life insurance, role of insurance in the economy, important uses of actuarial statistics specially in context of Bangladesh.

Theory of rates of interest and discount including theoretical continuous case of forces of interest and discount, annuities and sinking funds including continuous case, practical and theoretical applications primarily to mortgages and bonds, yield rates.

Economics of insurance, utility theory, application of probability to problems of life and death, determination of single premium for insurances and annuities in both discrete and continuous case.

Theory and practice of pension plan funding, assumptions, basic actuarial functions, population theory applied to private pensions.

Survival distributions, life table, life insurance, life annuities, net premium, premium series, multiple life functions, multiple decrement models, valuation theory for pension plans, expense function and dividends.

### **Text**

1. Parmenter, M.M.: *Theory of Interest and Life contingencies with pension Application*.

### **References**

1. Bowers, N.L., Gerber, H.V., Hickman, J.C., Jones, D.A. and Nesbitt, C. J.: *Actuarial Mathematics*.
2. Uddin, Mohammad Sohrab: *An Introduction to Actuarial and Financial Mathematics*.