## School of Engineering and Technology Information Technology and Engineering Department

## **Syllabus for Ph.D. Entrance Test**

Section A:

Mathematical and General Aptitude: Discrete structures (sets, graphs, elementary counting), Linear Algebra: Matrices, determinants, system of linear equations, Quantitative, Analytical Reasoning and Random variables. Uniform, normal, exponential, poisson and binomial distributions. Mean, median, mode and standard deviation. Conditional probability and Bayes theorem.

Section B:

Programming in C. Use of elementary data structures such as arrays, lists, stacks, queues, trees. Familiarity with recursion. Ability to reason about programs, loop invariants and assertions. Operating Systems, Computer Networks, Algorithm Design and Analysis, Theory of Computation, Database Management Systems, Machine Learning, Internet and Web Technology, Computer Graphics, Software Engineering, Computer System Architecture.