

## (MDC-01) COMPUTATIONAL METHODS FOR COMMUNICATION

**Theory paper: 100 Marks**

**Sessional: 50 Marks**

Solution of linear simultaneous and transcendental equations. Eigen values problems. Iterative method. Jacobi's method. and solution of communication problem. Analytical method. separation of variables orthogonal functions, series expansion, some practical applications of communication. Numerical integration, Euler's rule. Trapezoidal rule. Simpson rule. Newton Cote's method, Newton - Raphson method and Gaussian Quadrature method. Finite Element method, solution of poisson and wave equations and other communication problems. Basic MATAB function and applications. Fuzzy Set theory and application to communication problems. Fuzzy MATLAB tools  
OFT. FFT and MAT LAB tools for wavelet transform.

### **Suggested Text Books and References:**

- 1 Numerical methods in science & engineering, Or MK Venkataraman, The national pub Co. 1991.
- 2 Computer Oriented statistical and numerical methods, B. Balaguru Swamy, Macmillan India ltd 1998
- 3 Numerical methods for scientific and engineering computation, M.K Jain, S.R.K Iyengar and R.K Jain, Wiley Eastern ltd, 1987
- 4 Communication Systems, S Haykins, John Wiley and Sons