13-EC503 **MICROWAVE AND MILLIMETER WAVE CIRCUITS**

SYLLABUS

Analysis of Microwave Circuits: Introduction, Microwave Components – E-plane Tee, H-plane Tee, Magic Tee, Directional Coupler, Isolator, Circulator & their Scattering **Transformers & Resonators:** Parameters, Impedance Transformers – Quarter wave Transformers, Microwave Resonators – Rectangular and Cylindrical Resonators. **Filters And Periodic Structures:** Design of Narrow Band Low Pass, Band Pass and High Pass Filters, Maximally flat and Chebyshev Designs, Introduction to Periodic Structures, Floquet's Theorem, Circuit Theory Analysis of Infinite and Terminated Structures, **Obstacles In Wave Guides:** Introduction, Posts in Waveguides, Diaphragms in Waveguides, Waveguide Junctions, Waveguide Feeds, Excitation of Apertures **Millimeter Wave Circuits:** Wave Propagation in microstriplines, Discontinues in Microstrips, Parallel Coupled lines, Power Dividers and Directional Couplers, Microwave and Millimeter Wave Integrated Circuits

TEXT BOOKS

1.Roger F. Harrington, "Time-Harmonic Electromagnetic Fields", Mc graw-hill
2.Robert E Collin, "Foundation For Microwave Engineering", Mc Graw-Hill.

REFERENCE BOOKS

1.Analysis Methods for RF, Microwave, and Millimeter-Wave Planar Transmission Line Structures by Cam Nguyun