

EE Department, UNR
Ph.D. Qualifying Examination
Electromagnetic Fields- Syllabus
by Prof. Banmali S. Rawat

- I.** Vector Analysis, Electrostatic Fields, Steady Magnetic Fields- Basic Concepts, Applications and Boundary Conditions
- II.** Time Varying Fields and Maxwell's Equations- Integral and Differential forms, significance, Applications to simple geometries and boundary value problems
- III.** Plane Wave Propagation- Reflection and Transmission at Different Boundaries
- IV.** Introduction to TEM Transmission Lines, Impedance Matching and use of Smith Chart, Rectangular Waveguides, Microstrip Lines.

References: 1. Engineering Electromagnetics- William H. Hayt, Jr. and John A. Buck
2. Field and Wave Electromagnetics- David K. Cheng
3. Electromagnetics- John D. Krauss
4..Microwave Engineering- David M. Pozar (for microstrip lines)