***EC114 RF and Microwave Engineering Lab***

**L-T-P: 0-0-3; Total Lab Sessions**

***Prerequisites****:* i) Electromagnetic Theory (EC105), ii) RF and Microwave Engg (EC113)

***Objective****:* The objective of this course is to introduce undergraduate students to the fundamentals of RF and Microwave Engineering and to make students familiar with the microwave measurements and different microwave passive components. Students will also get familiar with antenna measurements and design

***Course Outcome****:* Upon successful completion of this course, students should be able to:

**Characterize** different microwave components.

Design the antenna and its measurements.

**List of Experiments:**

Experiment No 01: Determination of I-V characteristics of a Gunn Diode

Experiment No 02: Measurement of waveguide parameters

Experiment No 03:Measurement of coupling coefficient, directivity & insertion loss of a multi-hole directional coupler.

Experiment No 04: Measurement of coupling coefficient of E-Plane Tee.

Experiment No 05: Measurement of coupling coefficient of H-Plane Tee.

Experiment No 06: Measurement of coupling coefficient and isolation of Magic Tee.

Experiment No 07: Study of Reflex Klystron

Experiment No 08: Measurement of unknown impedance of a DUT.

Experiment No 09: Measurement of VSWR for different load.

Experiment No 10:

Experiment No 01:Study of Yagi Uda antenna (Radiation pattern and beamwidth)

Experiment No 11: Measurement of gain and directivity of a Yagi Uda antenna

Experiment No 12: Design of basic probe fed microstrip antenna using IE3D Software.