

M.Tech (Microwave & Communication Engineering) PVP17

MICROWAVE LAB

17ECMC2L1

Credits: 2

Lecture : ---

Internal assessment: 25 marks

Lab : 3 periods/week

Semester end examination: 50 marks

Prerequisites: Microwave Engineering, Advanced Antenna Theory

Course Outcomes:

Students will be able to

- Design planar-line sections for RF and Microwave circuits.
- Design Planar-line couplers, and power dividers.
- Analyze RF and microwave networks containing passive distributed components
- Learn the measurement procedures of important parameters in microwave engineering

List of Experiments:

Any 10 experiments from A, B & C (Minimum 2 from each)

A) Measurements on Microstrip components (Passive & Active):

1. Experiment on microstrip power divider.
2. Experiment on Microstrip directional coupler
3. Experiment on Microwave amplifier.
4. Experiment on Microwave Oscillator (VCO).
5. Experiment on Microwave mixer.
6. Experiment on PIN Diode Switch.

B) Experiments on Microstrip Antennas.

1. Verification of Inverse Square Law using Microstrip patch antenna.
2. Verification of Reciprocity Theorem using Microstrip patch antenna.
3. Experiment on Microstrip patch antenna for their radiation characteristics.
4. Experiment to study polarization characteristics of a patch antenna.

C) Experiments on VHF and UHF antennas.

1. To study the characteristics of Log Periodic Antenna.
2. To study the characteristics of Helical Antenna.
3. To study the characteristics of Discone Antenna.
4. To study the characteristics of Loop Antenna.
5. To study the characteristics of Shielded Loop Antenna.
6. To study the characteristics of Rectangular Slot Antenna.
7. To study the characteristics of Cylindrical Slot Antenna.

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