Written by Administrator Saturday, 07 November 2009 06:44 -

Subject Code		:
IA Marks	: 25	
No. of Lecture Hrs/Week		: 04
	. 00	
Exam Hours	: 03	
Total no. of Lecture Hrs.		: 52
		. 52
Exam Marks	: 100	

PART - A

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Unit - 1

Microwave transmission lines: Introduction, transmission lines equations and solutions, reflection and transmission coefficients, standing waves and SWR, line impedance and line admittance. Smith chart, impedance matching using single stubs, Microwave coaxial connectors.

7 Hours

Unit - 2

Microwave waveguides and components: Introduction, rectangular waveguides, circular waveguides, microwave cavities, microwave hybrid circuits, directional couplers, circulators and isolators.

7 Hours

Unit - 3

Microwave diodes,

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Transfer electron devices: Introduction, GUNN effect diodes – GaAs diode, RWH theory, Modes of operation, Avalanche transit time devices: READ diode, IMPATT diode, BARITT diode, Parametric amplifiers

Other diodes: PIN diodes, Schottky barrier diodes.

7 Hours

Unit - 4

Microwave network theory and passive devices. Symmetrical Z and Y parameters, for reciprocal Networks, S matrix representation of multi port networks.

6 Hours

PART - B

Unit - 5

Microwave passive devices, Coaxial connectors and adapters, Phase shifters, Attenuators, Waveguide Tees, Magic tees.

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4 Hours

Unit - 6

Strip lines: Introduction, Microstrip lines, Parallèle strip lines, Coplanar strip lines, Shielded strip Lines.

6 Hours

Unit - 7

An Introduction to Radar: Basic Radar, The simple form of the Radar equation, Radar block diagram, Radar frequencies, application of Radar, the origins of Radar.

8 Hours

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Unit - 8

MTI and Pulse Doppler Radar: Introduction to Doppler and MTI Radar, delay line Cancellers, digital MTI processing, Moving target detector, pulse Doppler Radar.

7 Hours

Text Books:

- 1. Microwave Devices and circuits- Liao / Pearson Education.
- 2. Introduction to Radar systems-Merrill I Skolnik, 3rd Ed, TMH, 2001.
- 3. **Microwave Engineering** Annapurna Das, Sisir K Das TMH Publication, 2001.

Reference Book:

1. **Microwave Engineering** – David M Pozar, John Wiley, 2e, 2004.

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