



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
(Autonomous)
DEPARTMENT OF INFORMATION TECHNOLOGY



Branch / Year / Semester: Information Technology / IV B.Tech. IT / 07

Subject Code / Subject Name: U14IT726 / Wireless Communications & Networks

LESSION PLAN

Session No.	Topics Covered	Duration in Minutes	Teaching AID	Books Referred
UNIT – I CHARACTERIZATION OF THE WIRELESS CHANNEL				
1	Multipath Propagation Environment <ul style="list-style-type: none">➤ Frequencies➤ Signals➤ Antennas➤ Signal propagation	45	BB	R1
2	<ul style="list-style-type: none">➤ Multiplexing➤ Spread spectrum➤ Modulation➤ Cellular systems	45	BB	R1
3	Linear Time <ul style="list-style-type: none">➤ Variant Channel Model➤ Channel Correlation Functions	45	PPT	R1
4	Large-Scale Path Loss <ul style="list-style-type: none">➤ Shadowing	45	BB	R1
5	Small-Scale Multipath Fading	45	BB	R1
6	Multipath and Doppler Effect	45	BB	R1
7	Co - channel interference & adjacent channel interference	45	PPT	R1
8	Binary digital communication system	45	PPT	R1
9	Digital modulation Technique	45	BB	R1
UNIT – II BANDPASS TRANSMISSION TECHNIQUES FOR MOBILE RADIO				
1	Introduction <ul style="list-style-type: none">➤ Signal Space and Decision regions	45	BB	R1
2	Digital Modulation	45	BB	R1
3	<ul style="list-style-type: none">➤ Frequency versus Amplitude Modulation➤ Amplitude Modulation (AM)➤ Angle Modulation	45	PPT	R1
4	<ul style="list-style-type: none">➤ Digital Modulation➤ Line Coding	45	PPT	R1

	➤ Pulse Shaping Techniques			
5	➤ Geometric Representation of Modulation Signal ➤ Linear Modulation Techniques ➤ Constant Envelope Modulation	45	BB	R1
6	M-ary signaling ➤ Modulation Techniques for Mobile Radio	45	BB	R1
7	Probability of Transmission Error.	45	PPT	R1
8	Triangle Routing, Optimized Routing	45	PPT	R1
9	Hierarchical Routing	45	BB	R1
UNIT – III FUNDAMENTALS OF CELLULAR COMMUNICATIONS				
1	Frequency Reuse	45	BB	R2
2	Mobility Management	45	BB	R2
3	Cell Cluster Concept	45	BB	R2
4	Co-channel and Adjacent Channel Interference	45	BB	R2
5	Call Blocking ➤ Delay at the Cell-Site	45	BB	R2
6	Hexagonal Geometry ➤ Co-channel Interference Ratio	45	BB	R2
7	Cellular Design with Omni directional Antenna	45	BB	R2
8	Directional Antenna ➤ Cell Splitting	45	BB	R2
9	➤ Adjacent Channel Interference ➤ Segmentation	45	BB	R2
UNIT – IV MOBILITY MANAGEMENT IN WIRELESS NETWORKS				
1	Introduction	45	PPT	R2
2	Call Admission Control (CAC)	45	PPT	R2
3	Handoff Management	45	BB	R2
4	Location Management for Cellular Networks	45	BB	R2
5	Location Management for PCS Networks ➤ Traffic Calculation	45	PPT	R2
6	Adjacent Channel Interference	45	PPT	R2
7	Basic Issues in Mobility Management ➤ Mobility Management in IP Networks ➤ Mobility Management in 3GPP Packet Networks	45	BB	R2
8	➤ Mobility Management in 3GPP2 Packet Data Networks ➤ Networks Mobility Management in MWIF Networks	45	BB	R2
9	Comparison of Mobility Management in IP, 3GPP, and 3GPP2 Networks	45	BB	R2

UNIT – V				
WIRELESS/WIRELINE INTERWORKING				
1	Mobile IP	45	PPT	R1,R2
2	<ul style="list-style-type: none"> ➤ Connection control ➤ Ordered delivery ➤ Flow control 	45	PPT	R1
3	Internet Protocol (IP)	45	BB	R1
4	<ul style="list-style-type: none"> ➤ IP v 1-3 defined and replaced ➤ IP v4 - current version ➤ IP v5 - streams protocol ➤ IP v6 - replacement for IP v4 	45	BB	R1
5	Transmission Control Protocol (TCP)	45	BB	R1
6	RFCs: <ul style="list-style-type: none"> ➤ 793 ➤ 1122 ➤ 1323 ➤ 2018 ➤ 2581 	45	BB	R1,R2
7	Network Performance	45	BB	R1
8	Wireless Application Protocol (WAP)	45	PPT	R1
9	Mobile AD HOC Networks	45	PPT	R1

REFERENCES:	
1.	J.W. Mark & W.Zhuang - Wireless Communications and Networking, Pearson Education, New Delhi - 2007.
2.	W.Stallings - Wireless communications & Networks, 2/e, Pearson Education, New Delhi- 2007.