

KL University
Department of Electronics & Computer Engineering
M.Tech (wcn) 2015-2017

Course Code : 15-EM52G3
Course Title : Advanced Wireless Networks
Course Structure : 3-0-0
Credits : 3

SYLLABUS:

UNIT –I: Introduction

Evolution of Wireless Networks - Wireless Local Area Networks - Public Wide-Area Wireless networks. Introduction to 1G/2G/3G/4G Terminology. Evolution of Public Mobile Services – First Wave of Mobile Data Services: Text-Based Instant Messaging. Second Wave of Mobile Data Services: Low-Speed Mobile Internet Services. Current Wave of Mobile Data Services: High-Speed and Multimedia Mobile Internet Services. IP-Based Wireless Networks - 3GPP, 3GPP2.

UNIT –II: Wireless IP Network Architectures

3GPP Packet Data Networks - Network Architecture-3GPP2 Packet Data - MWIF All-IP Mobile Networks - Network Architectures - Access to MWIF Networks - Session Management.

UNIT –III: IP Multimedia Subsystems and Application-Level Signaling

Signaling in IP Networks -Session Initiation Protocol (SIP) -Session Description Protocol (SDP) 3GPP IP Multimedia Subsystem (IMS) - IMS Architecture 3.2.2 Mobile Station Addressing for Accessing the IMS - Reference Interfaces -Service Architecture - Registration with the IMS - Deregistration with the IMS -End-to-End Signaling Flows for Session Control 3GPP2 IP Multimedia Subsystem (IMS)

UNIT –IV: Mobility Management

Basic Issues in Mobility Management - Mobility Management in IP Networks - Mobility Management in 3GPP Packet Networks -Mobility Management in 3GPP2 Packet Data Networks –Mobility Management in MWIF Networks - Comparison of Mobility Management in IP, 3GPP, and 3GPP2 Networks .

UNIT –V: Quality of Service

Internet QoS - QoS Challenges in Wireless IP Networks - QoS in 3GPP - QoS in 3GPP2 - 3GPP2 QoS Architecture -3GPP2 QoS Management -3GPP2 QoS Classes -QoS Attributes (QoS Profile) Management of End-to-End IP QoS.

Text Books:

1. Jyh-Cheng Chen and Tao Zhang, “IP-Based Next-Generation Wireless Network Systems, Architectures, and Protocols,” John Wiley & Sons, Inc. Publication, 2006.
2. Crosspoint Boulevard , “Wireless and Mobile All-IP Networks,” Wiley Publication, 2005.

Reference Books

1. Minoru Etoh, “Next Generation Mobile Systems 3G and Beyond,” Wiley Publications, 2005.
2. Savo Glisic , “Advanced Wireless Communications 4G Technologies,” Wiley Publications, 2004.<http://www.ebookee.com/Advanced-Wireless-Communications-4G-Technologies->