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***CSX462 Mobile Communication***

**L-T-P-Cr: 3-0-0-3**

**Pre-requisites:** Fundamentals of Communication, Computer networks.

**Objectives/Overview:**

* To understand basic concepts of wireless transmission technique.
* To learn different medium access techniques and GSM.
* To learn about different mobile network and transport layer protocols.

**Course Outcomes:**

At the end of the course, a student should:

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| **S.NO** | **Outcomes** | **Mapping to PO** |
| 1. | Familiarize with the basic concepts and terminology in Wireless Transmission | PO1 |
| 2. | Learn about various medium access techniques and GSM | PO2, PO4, PO5, PO6 |
| 3. | Introduction to the satellite system and various wireless distribution networks | PO1, PO4, PO5 |
| 4. | Learn about various mobile network and transport layer protocols | PO1, PO4, PO5, PO6 |

**UNIT I Lectures: 6**

Introduction: Applications, Some open research topics, A simplified reference model

Wireless Transmission:Frequencies for radio transmission, Signals, Antennas, Signal propagation Multiplexing, Modulation, Spread spectrum, Cellular systems

**UNIT II Lectures: 13**

Medium Access Control:Motivation for a specialized MAC, SDMA, FDMA, TDMA, CDMA, Comparisons of S/T/F/CDMATelecommunications Systems:GSM

**UNIT III Lectures: 11**

Satellite Systems:History, Applications, Basics, Routing, Localization, Handover

Wireless LAN:Infra-red vs. radio transmission, Infrastructure and ad-hoc network, IEEE 802.11, Bluetooth

**UNIT IV Lectures: 12**

Mobile Network Layer:Mobile IP, Dynamic host configuration protocol, Mobile ad-hoc networks

Mobile Transport Layer:Traditional TCP, Classical TCP improvements, TCP over 2.5/3G wireless networks, Performance enhancing proxies

**Text/Reference Book:**

1. Jochen Schiller, Mobile Communications, Pearson Education