



## **BIT-405**

### **AD-HOC & SENSOR NETWORKS**

#### **UNIT-I**

Wireless Transmission Technology and Systems: Introduction, Radio Technology Primer, Available Wireless Technologies. Medium Access Control Protocols for Wireless Networks: Introduction, Background, Fundamentals of MAC Protocols.

#### **UNIT-II**

Adhoc Networks: Introduction and Definitions, Adhoc Network Applications, Design Challenges. Evaluating Adhoc Network Protocols -the Case for a Test bed. Routing in Mobile Adhoc Networks: Introduction, Flooding. Proactive Routing. On Demand Routing. Proactive Versus On Demand Debate. Location based Routing.

#### **UNIT-III**

Multicasting in Adhoc Networks: Introduction, Classifications of Protocols, Multicasting Protocols, Broadcasting. Protocol Comparisons, Overarching Issues. Transport layer Protocols in Adhoc Networks: Introduction, TCP and Adhoc Networks, Transport Layer for Adhoc Networks: Overview, Modified TCP, TCP-aware Cross-Layered Solutions. Adhoc Transport Protocol.

#### **UNIT-IV**

QoS Issue in Adhoc Networks: Introduction, Definition of QoS, Medium Access Layer, QoS Routing, Inter- Layer Design Approaches. Security in Mobile Adhoc Networks: Vulnerabilities of Mobile Adhoc Networks, Potential Attacks, Attack Prevention Techniques. Intrusion Detection Techniques.

#### **UNIT-V**

Basic Wireless Sensor Technology: Introduction, Sensor Node Technology, Sensor Taxonomy. Introduction and Overview of Wireless Sensor Networks: Introduction, Overview MAC Protocols for Wireless Sensor networks. Applications of Wireless Sensor Networks: Examples of Category 1 and Category 2 WSN applications.

***Suggested Reading:***

- 1) Prasant Mohapatra and Srihanamurthy, “Ad Hoc Networks Technologies and Protocols”, Springer, Springer International Edition, 2009.
- 2) Kazem Sohraby, Daniel Minoli, Taieb Znati, “Wireless Sensor Networks”, A John Wiley & Sons, Inc., Publication-2007.
- 3) Shivaram Murthy and B. S. Manoj, “Adhoc Networks – Principles and Protocols”, Pearson Education, 2012.

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