

## UNIT 8

**DS12887 RTC interfacing and Programming, Applications :** 6 Hours  
DS12887  
RTC interfacing; DS12887 RTC programming in C; Alarm, SQW, and IRQ  
features of DS12886 Relays and opto-isolators; Stepper motor interfacing;  
DC motor interfacing and PWM

### Text Books:

1. Muhammad Ali Mazidi, Janice Gillispie Mazidi, Rolin D. McKinlay: The 8051 Microcontroller and Embedded Systems using Assembly and C, 2<sup>nd</sup> Edition, Pearson Education, 2008.

### Reference Books:

1. Raj Kamal: Microcontrollers Architecture, Programming, Interfacing and System Design, Pearson Education, 2007.
2. Dr. Ramani Kalpathi, Ganesh Raja: Microcontrollers and Applications, 1<sup>st</sup> Revised Edition, Sanguine - Pearson, 2010.

## ADHOC NETWORKS

Sub Code: 10IS841

Hrs/Week: 04

Total Hrs: 52

IA Marks : 25

Exam Hours : 03

Exam Marks : 100

## PART - A

### UNIT 1

**Introduction:** Ad hoc Networks: Introduction, Issues in Ad hoc wireless networks, Ad hoc wireless internet. 6 Hours

### UNIT 2

**MAC - 1:** MAC Protocols for Ad hoc wireless Networks: Introduction, Issues in designing a MAC protocol for Ad hoc wireless Networks, Design goals of a MAC protocol for Ad hoc wireless Networks, Classification of MAC protocols, Contention based protocols with reservation mechanisms. 7 Hours

### UNIT 3

**MAC - 2:** Contention-based MAC protocols with scheduling mechanism, MAC protocols that use directional antennas, Other MAC protocols. 6 Hours

### UNIT 4

**Routing - 1:** Routing protocols for Ad hoc wireless Networks: Introduction, Issues in designing a routing protocol for Ad hoc wireless Networks, Classification of routing protocols, Table drive routing protocol, On-demand routing protocol. 7 Hours

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H.O.D.

## PART- B

### UNIT 5

6 Hours

**Routing – 2:** Hybrid routing protocol, Routing protocols with effective flooding mechanisms, Hierarchical routing protocols, Power aware routing protocols

### UNIT 6

7 Hours

**Transport Layer:** Transport layer protocols for Ad hoc wireless Networks: Introduction, Issues in designing a transport layer protocol for Ad hoc wireless Networks, Design goals of a transport layer protocol for Ad hoc wireless Networks, Classification of transport layer solutions, TCP over Ad hoc wireless Networks, Other transport layer protocols for Ad hoc wireless Networks.

### UNIT 7

6 Hours

**Security:** Security: Security in wireless Ad hoc wireless Networks, Network security requirements, Issues & challenges in security provisioning, Network security attacks, Key management, Secure routing in Ad hoc wireless Networks.

### UNIT 8

7 Hours

**QoS:** Quality of service in Ad hoc wireless Networks: Introduction, Issues and challenges in providing QoS in Ad hoc wireless Networks, Classification of QoS solutions, MAC layer solutions, network layer solutions.

#### Text Books:

1. C. Siva Ram Murthy & B. S. Manoj: Ad hoc Wireless Networks, 2<sup>nd</sup> Edition, Pearson Education, 2005.

#### Reference Books:

1. Ozan K. Tonguz and Gianguigi Ferrari: Ad hoc Wireless Networks, John Wiley, 2008.
2. Xiuzhen Cheng, Xiao Hung, Ding-Zhu Du: Ad hoc Wireless Networking, Kluwer Academic Publishers, 2004.
3. C.K. Toh: Adhoc Mobile Wireless Networks- Protocols and Systems, Pearson Education, 2002.

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