UNIT 8   **6 Hours**
DS12887 RTC interfacing and Programming, Applications: 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, 2nd 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, 1st Revised Edition, Sanguine - Pearson, 2010.

ADHOC NETWORKS

Sub Code: 10IS841	IA Marks	: 25
Hrs/Week: 04	Exam Hours	: 03
Total Hrs: 52	Exam Marks	: 100

PART – A

UNIT 1   **6 Hours**
Introduction: Ad hoc Networks: Introduction, Issues in Ad hoc wireless networks, Ad hoc wireless internet.
UNIT 2   **7 Hours**
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.

UNIT 3   **6 Hours**
MAC – 2: Contention-based MAC protocols with scheduling mechanism, MAC protocols that use directional antennas, Other MAC protocols.

UNIT 4   **7 Hours**
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.

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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, 2nd 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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