SCHEME OF COURSE WORK

Course Title	: **ADHOC NETWORKS**		
Course Code	: 13EC2117	L T P C	4 0 0 3
Program:	:M.Tech		
Specialization:	: Communication Engineering and Signal Processing		
Semester	:II		
Prerequisites	: Computer Networks		
Courses to which it is a prerequisite	: Wireless Communications		

Course Outcomes (Cos):

1	Describe the unique issues in ad-hoc/sensor networks.
2	Describe current technology trends for the implementation and deployment of wireless ad-hoc/sensor networks
3	Discuss the challenges in designing MAC, routing and transport protocols for wireless ad-hoc/sensor networks.
4	Discuss the challenges in designing routing and transport protocols for wireless Ad-hoc/sensor networks.
5	Comprehend the various sensor network Platforms, tools and applications.

Course Outcomes versus Program Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	M			M					M		
CO2			M	M	M		S		M	M	
CO3	**M**		M	M					M		M
CO4			M	M				M	M		M
CO5	**M**		M	S		S				M	

S - Strongly correlated, M - Moderately correlated, Blank - No correlation

Scheme of Course Work

Submitted by Mr. S M K Chaitanya for M. Tech II semester

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam

Week	Topic /Contents	Course Outcomes	Sample questions	Teaching-Learning Strategy	Assessment Method & Schedule
1	Introduction of ad-hoc/sensor networks, Key definitions of ad-hoc/sensor networks - Advantages of ad-hoc/sensor networks - Unique constraints and challenges Driving Applications.	CO1	1. Explain advantages of adhoc networks 2.write the applications of adhoc networks	Lecture	Assignment I/Quiz-I/Mid-I
2	Electromagnetic spectrum-Radio propagation mechanism-characteristics of the wireless channel Adhoc Wireless Networks – Heterogeneity in Mobile Devices – Wireless Sensor Networks – Traffic Profiles	CO1	1.Draw and Explain electro magnetic spectrum of radio propagation 2.Write short notes on heterogeneity in mobile devices	Lecture/ Discussion	Assignment I/Quiz-I/Mid-I
3	Types of Adhoc Mobile Communications – Types of Mobile Host Movements – Challenges Facing Adhoc Mobile Networks – Adhoc Wireless Internet. Ad-Hoc wireless networks Introductions to lan, wan, man, pan architectures and applications.	CO1	1.Explain wireless internet 2. write the challenges facing in adhoc networks	Lecture/ Discussion	Assignment I/Quiz-I/Mid-I
4	END TO END DELIVERY	CO2	1.Write short notes	Lecture/	Assignment

	AND SECURITY: Transport layer: Issues in designing- Transport layer classification, adhoc transport Protocols, Security issues in adhoc networks:		on security issues in adhoc networks 2. Explain transport protocols	Discussion	I/Quiz-I/Mid-I
5	issues and challenges, network security attacks, secure routing protocols Ad-Hoc wireless networks Introductions to local area networks, wide area networks, man, pan architectures and applications.	CO2	1.write short notes on lan,wan, pan,man 2. Explain security attacks in adhoc networks	Lecture/ Discussion	Assignment I/Quiz-I/Mid-I
6	Media Access Control (MAC) Protocols Introduction - Issues in Designing a MAC Protocol for Ad Hoc Wireless Networks –	CO3	1.Explain different communication protocols 2. Explain wireless communication protocols	Lecture/ Problem solving	Assignment I/Quiz-I/Mid-I
7	Classifications of MAC Protocol. MACAW – FAMA – BTMA – DPRMA	CO3	1. Explain the classification of MAC protocols 2. Write short notes on FAMA,BTMA	Lecture/ Problem solving	Assignment I/Quiz-I/Mid-I
8	Mid-Test 1				
9	Real-Time MAC protocol – Multichannel Protocols – Power Aware MAC.	CO3	1. Write short notes on Multichannel protocols 2.Write short notes on power aware of MAC		
10	Issues in Designing a Routing Protocol for Ad Hoc Wireless Networks – Classifications of Routing Protocols - Table-driven protocols	CO4	1.Explain issues in designing of a routing protocol 2.Write about routing protocols	Lecture/ Problem solving	Assignment II/Quiz-II/Mid-II
11	DSDV – WRP – CGSR – On-Demand protocols – DSR – AODV – TORA	CO4	1.write short notes on dsr,aodv,abr protocols 2.Write about zone	Lecture/ Problem solving	Assignment II/Quiz-II/Mid-II

	– LAR – ABR – Zone Routing Protocol – Power Aware Routing protocols		routing protocols		
12	NETWORKING SENSORS AND APPLICATIONS: Unique features, Deployment of ad-hoc/sensors	CO5	1.Wrte the features of sensors 2.Explain Unique features of adhoc sensors	Lecture/ Problem solving	Assignment II/Quiz-II/Mid-II
13	Berkley motes, sensor network program challenges	CO5	1.Write about Berkely Motes 2.Write sensor network challenges	Lecture/ Problem solving	Assignment II/Quiz-II/Mid-II
14	Sensor tasking and control Transport layer and security protocols	CO5	1. Explain transport layer and security protocols	Lecture/ Problem solving	Assignment II/Quiz-II/Mid-II
15	Applications: Applications of Ad-Hoc/Sensor Network and Future Directions. Ultra wide band radio communication-Wireless fidelity systems.	CO5	1.What are the applicatios of adhoc netowrks	Lecture/ Discussion	Assignment II/Quiz-II/Mid-II
16	Mid-Test 2	------			
19/20	END EXAM	------			