

# GUJARAT TECHNOLOGICAL UNIVERSITY

**Subject Name: Mobile Adhoc Networks (Major Elective – II)**  
**Subject code: 3725303**  
**Semester II**

**Type of course:** ME - Computer Engineering (Wireless And Mobile Computing)

**Prerequisite:**

1. Fundamental of Computer networks
2. Wireless networks
3. Sensor networks

**Rationale:** NA

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	2#	0	4	70	30	30	20	150

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment;

**Content:**

Sr. No.	Content	Total Hrs	% Weightage
1	Introductory concepts: Different models of operation. Various applications of MANET, Destination-Sequenced Distance Vector protocol: Overview, route advertisement, extending base station coverage.	6	10
2	Properties of DSDV protocol, Dynamic Source Routing protocol: Overview and properties, DSR route discovery, route maintenance.	6	10
3	Support for heterogeneous networks and mobile IP. Multicast routing with DSR Ad Hoc On-Demand Distance-Vector protocol: Properties, unicast route establishment, multicast route establishment.	6	10
4	Broadcast. Optimizations and Enhancements Link Reversal Routing: Gafni-Bertsekas algorithm, lightweight mobile routing algorithm.	7	20
5	Temporally ordered routing algorithm Preserving battery life of mobile nodes: Associatively based routing, effects of beaconing on battery life	7	20

**Text Book:**

1. C. Siva Ram Murthy and B.S. Manoj “Ad Hoc Wireless Networks: Architectures and Protocols”, Prentice Hall PTR, 2004

**References Books:**

1. C.K. Toh, Ad Hoc Mobile Wireless Networks: Protocols and Systems, Prentice Hall PTR, 2001
2. Charles E. Perkins, Ad Hoc Networking, Addison Wesley, 2000

**Course Outcome:**

After learning the course the students should be able to:

Student undergoing this course are able to ...

1. Knowledge on ad-hoc networks
2. Knowledge on various routing protocols

**Review Presentation (RP):** The concerned faculty member shall provide the list of peer reviewed Journals and Tier-I and Tier-II Conferences relating to the subject (or relating to the area of thesis for seminar) to the students in the beginning of the semester. The same list will be uploaded on GTU website during the first two weeks of the start of the semester. Every student or a group of students shall critically study 2 papers, integrate the details and make presentation in the last two weeks of the semester. The GTU marks entry portal will allow entry of marks only after uploading of the best 3 presentations. A unique id number will be generated only after uploading the presentations. Thereafter the entry of marks will be allowed. The best 3 presentations of each college will be uploaded on GTU website