

Adhoc and Sensor Networks

Course Code	20CS4701D	Year	IV	Semester	I
Course Category	PEC	Branch	CSE	Course Type	Theory
Credits	3	L-T-P	3-0-0	Prerequisites	Computer Networks
Continuous Evaluation :	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to		
CO1	Understand the Basic Concepts of Adhoc and Sensor Networks	L2
CO2	Apply appropriate MAC & Routing Protocols for a given scenario	L3
CO3	Apply suitable Transport Protocols for a given scenario.	L3
CO4	Apply the concept of data dissemination, localization for a given network to achieve best QoS in WSN	L3

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:Substantial, 2: Moderate, 1:Slight)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3													
CO2	3								1	1				
CO3	3								1	1				
CO4													3	

Syllabus		Mapped CO
Unit No.	Contents	
I	Adhoc Wireless Networks – Introduction, Issues In Ad Hoc Wireless Networks, Adhoc Wireless Internet Mac Protocols For Ad Hoc Wireless Networks – Design Goals Of A Mac Protocol For Ad Hoc Wireless Networks, Classifications Of MAC protocols, Contention-Based Protocols, Contention-Based Protocols With Reservation Mechanisms, Contention-Based MAC protocols With Scheduling Mechanisms	CO1, CO2
II	Routing Protocols For Ad Hoc Wireless Networks - Issues In Designing A Routing Protocol For Ad Hoc Wireless Networks, Classifications Of Routing Protocols, Table-Driven Routing Protocols, On-Demand Routing Protocols, Hybrid Routing Protocols.	CO1, CO2
III	Transport Layer And Security Protocols For Ad Hoc Wireless Networks – 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, Security In Ad Hoc Wireless Networks.	CO1, CO3
IV	Wireless Sensor Networks : Introduction, WSN architecture, Data dissemination, data gathering, MAC Protocols for WSN, localization,	CO1, CO4
V	Quality Of Service : Quality Of A Sensor Network, Other Issues – Energy Efficient Design-Synchronization-Transport Layer issues, security, Real Time Communication	CO1, CO4

Learning Resources

Text Books

1. Ad Hoc Wireless Networks – Architectures and Protocols, C. Siva Ram Murthy and B.S. Manoj, First Edition, Prentice Hall, 2014.

References

1. Wireless Sensor Networks – An Information Processing Approach, Feng Zhao and Leonidas Guibas, First Edition, Elsevier Publications, 2005.
2. Protocols and Architectures for Wireless Sensor Networks, Holger Karl and Andreas Willig, John Wiley and Sons, 2011.

e-Resources & other digital material

1. <https://www.geeksforgeeks.org/engineering-mathematics-tutorials/>
2. https://www.tutorialspoint.com/discrete_mathematics/index.htm
3. <http://www.alas.matf.bg.ac.rs/~mi10164/Materijali/DS.pdf>
4. <https://nptel.ac.in/courses/111107058/>