

28	Network Security Requirements	T2	1	PPT	L1	CO4	PO1-PO2
29	Issues and Challenges in Security Provisioning,	T2	1	PPT	L1	CO4	PO1-PO2
30	Network Security Attacks	T2	1	PPT,NPTEL	L2	CO4	PO1-PO2
31	Layer wise attacks in wireless sensor networks	T2	1	BB	L2	CO4	PO1-PO3
32	Possible solutions for Jamming, Tampering	T2	1	BB	L2	CO4	PO1-PO2
33	Flooding Attack	T2	1	BB	L2	CO4	PO1-PO2
34	Key Distribution and Management	T2	1	BB	L2	CO4	PO1-PO3
35	Secure Routing – SPINS	T2	1	PPT	L2	CO4	PO1-PO3
36	Reliability Requirements in Sensor Networks	T2	1	BB	L2	CO4	PO1-PO2

Suggested Activity: MCQ

Evaluation method : Google form -MCQ Test

UNIT V SENSOR NETWORK PLATFORMS AND TOOLS

UNIT V SENSOR NETWORKS, PLATFORMS AND TOOLS							
37	Sensor Node Hardware	T2	1	BB	L2	CO5	PO1-PO2
38	Berkeley Motes	T2	1	PPT	L2	CO5	PO1-PO2
39	Programming Challenges	T2	1	PPT	L2	CO5	PO1-PO3
40	Node-level software platforms – TinyOS	T2	1	PPT	L2	CO5	PO1-PO3
41	nesC, CONTIKIOS	T2	1	PPT	L2	CO5	PO1-PO3
42	Node-level Simulators – NS2 and its extension to sensor networks,	T2	1	PPT	L2	CO5	PO1-PO3,PO4,PO5
43	COOJA, TOSSIM	T2	1	PPT	L2	CO5	PO1-PO3
44	Programming beyond individual nodes	T2	1	PPT	L2	CO5	PO1-PO2
45	State centric programming.	T2	1	PPT	L2	CO5	PO1-PO3

Suggested Activity: Assignment on COOJA and Tossim

Evaluation method : Assignment

Content Beyond the Syllabus Planned

Content Beyond the Synopsis Planned	
1	Wireless Sensor Networks for In-Home Healthcare: Potential and Challenges
2	The Precision Agriculture Based on Wireless Sensor Network

Text Books

1	C. Siva Ram Murthy and B. S. Manoj, —Ad Hoc Wireless Networks Architectures and vProtocols, Prentice Hall, PTR, 2004. (UNIT I)
2	Holger Karl, Andreas willig, —Protocol and Architecture for Wireless Sensor Networks, vJohn wiley publication, Jan 2006.(UNIT II-V)

Reference Books

1	Feng Zhao, Leonidas Guibas, —Wireless Sensor Networks: an information processing vapproachl, Elsevier publication, 2004.
2	Charles E. Perkins, —Ad Hoc Networkingl, Addison Wesley, 2000.
3	I.F. Akyildiz, W. Su, Sankarasubramaniam, E. Cayirci, —Wireless sensor networks: a surveyl, computer networks, Elsevier, 2002, 394 - 422.

Website / URL References

1	Introduction to Adhoc WSN : https://nptel.ac.in/courses/106/105/106105160/
2	Security Attacks: http://www.nitttrc.edu.in/nptel/courses/video/106105160/lec37.pdf

Blooms Level

EXAM LEVEL					
Level 1 (L1) : Remembering	Lower Order Thinking	Fixed Hour Exams	Level 4 (L4) : Analysing		Higher Order Thinking
Level 2 (L2) : Understanding			Level 5 (L5) : Evaluating		
Level 3 (L3) : Applying			Level 6 (L6) : Creating		
					Projects / Mini Projects

Mapping syllabus with Bloom's Taxonomy LOT and HOT

Unit No	Unit Name	L1	L2	L3	L4	L5	L6	LOT	HOT	Total
Unit 1	AD HOC NETWORKS – INTRODUCTION AND ROUTING PROTOCOLS	2	4	3	0	0	0	9	0	9
Unit 2	SENSOR NETWORKS – INTRODUCTION & ARCHITECTURES	0	8	1	0	0	0	9	0	9
Unit 3	WSN NETWORKING CONCEPTS AND PROTOCOLS	0	8	1	0	0	0	9	0	9
Unit 4	SENSOR NETWORK SECURITY	2	7	0	0	0	0	9	0	9
Unit 5	SENSOR NETWORK PLATFORMS AND TOOLS	0	9	0	0	0	0	9	0	9
Total		4	36	5	0	0	0	45	0	45
Total Percentage		8.888889	80	11.111111	0	0	0	100	0	100

CO PO Mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	0	0	0	0	0	0	0	0	1	1	0
CO2	3	2	1	1	0	0	0	0	0	0	1	0	0	0
CO3	2	2	1	0	0	0	0	0	0	0	0	0	0	0
CO4	2	2	1	0	0	0	0	0	0	0	0	0	0	0
CO5	1	2	1	0	1	0	0	0	0	0	0	1	0	0
Avg	2.2	2	1	1	1	0	0	0	0	0	0.2	1	1	0

CO	PO	Justification for CO-PO mapping
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100	100	100

CO1	High corolation with the use knowledge of mathematical preliminaries and science (PO1) and Mdiium correlation (PO2) approach to analyse the sensor networks(PO2).Moderiate relevance to provide solutions based design (PO3).Learning required (PO12)
CO2	High corolation with the use knowledge of mathematical preliminaries and science (PO1) and Mdiium correlation (PO2) approach to analyse the sensor networks(PO2).Moderiate relevance to provide solutions based design (PO3)
CO3	Medium corolation with the use knowledge of mathematical preliminaries and science (PO1) and (PO2) approach to analyse the sensor networks Less relevance to provide solutions based design (PO3)

CO4	Medium corolation with the use knowledge of mathematical preliminaries and science (PO1) and (PO2) approach to analyse the networks Security . Less relevance to provide solutions based design (PO3)													
CO5	Medium corolation with the use knowledge of mathematical preliminaries and science (PO1) and (PO2) approach to use atools . Less relevance to provide solutions based design (PO3), Medium Morden tools usage (PO5)., reired to update the tools(PO12).													
3	High level				2	Moderate level				1	Low level			
Name & Sign of Faculty Incharge :Mr.M.Kamarajan														
Name & Sign of Subject Expert :														
Head of the Department :														
Format No :231														