SCHOOL OF ELECTRICAL ENGINEERING

Value Added Courses (2017 -2018)

Introduction to Wireless Sensor Networks

Course Objective

Wireless sensor networks (WSNs) emerge as an active research area in which challenging topics involve energy consumption, routing algorithms, selection of sensors location according to a given premise, robustness, efficiency, and so forth. Despite the open problems in WSNs, there are already a high number of applications available. In all cases for the design of any application, one of the main objectives is to keep the WSN alive and functional as long as possible. A key factor in this is the way the network is formed. The course is focused on whether a single or multiple sinks are employed, nodes are static or mobile, the formation is event detection based or not, and network backbone is formed or not. We focus on recent works and present a discussion of their advantages and drawbacks.
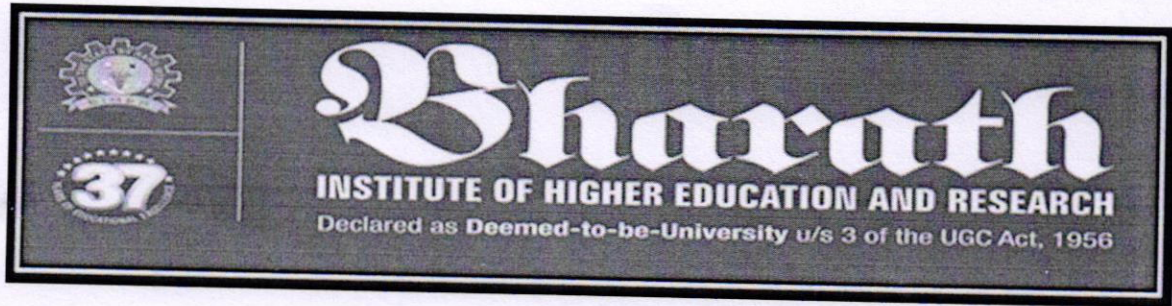
Resource Persons :

1.Dr.S.Arulselvi

2.Dr.B.Karthik

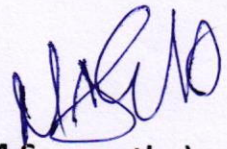3.Ms.M.Jasmin

**Convener**

Dr.M.Sangeetha

HOD/ECE

CIRCULAR

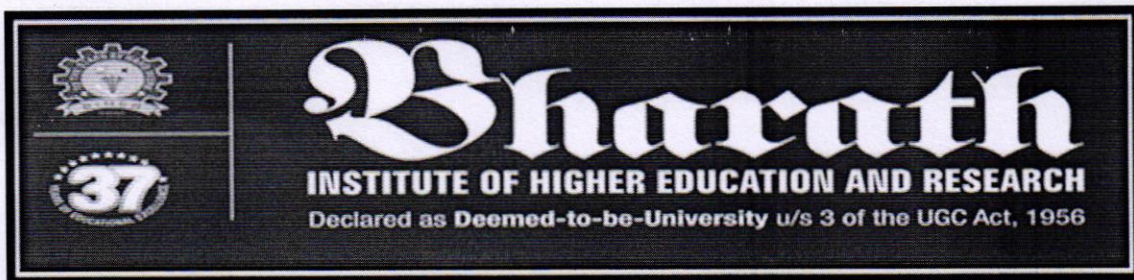## SCHOOL OF ELECTRICAL ENGINEERING

Date: 01.09.2017

The course on Introduction to wireless Sensor Networks is planned by School of Electrical Engineering which commences on 26-9-2017(Tuesday).In this regard the students are requested to give their willingness to Course Coordinator. It is instructed to actively participate and get benefitted for the certified course.

Course Coordinator: M. Sowmiya Manoj
Contact No:7358747803
Email id : sowmiyamanoj.ece@bharathuniv.ac.in

(Dr.M.Sangeetha)
HOD/ECE
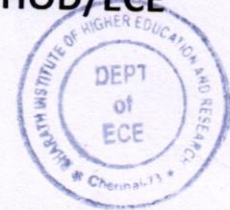
To,
Copy to ECE Department,
Copy to EEE Department,
Department Notice Board

SCHOOL OF ELECTRICAL ENGINEERING

Course on Application of Sensor networks

SCHEDULE

Contact Hours : 32 hrs

DATE	SESSION	Contact Hours	TOPICS	Resource person
26-9-2017	FN	9.00 am to 12.30 pm	Characteristic requirements for WSN - Challenges for WSNs – WSN vs Adhoc Networks - Sensor node architecture – Commercially available sensor nodes – Imote, IRIS, Mica Mote, EYES nodes, BT nodes, Telos B, Sunspot	Dr.S.Arulselvi
	AN	1.30 pm to 4 pm	Physical layer and transceiver design considerations in WSNs, Energy usage profile, Choice of modulation scheme, Dynamic modulation scaling, Antenna considerations.	Dr.B.Karthik
27-9-2017	FN	9.00 am to 12.30 pm	Fundamentals of MAC protocols - Low duty cycle protocols and wakeup concepts – Contention based protocols - Schedule-based protocols	Dr.S.Arulselvi
	AN	1.30 pm to 4 pm	SMAC - BMAC - Traffic-adaptive medium access protocol (TRAMA) - The IEEE 802.15.4 MAC protocol	Ms.M.Jasmin
28-9-2017	FN	9.00 am to 12.30 pm	Routing Challenges and Design Issues in Wireless Sensor Networks, Flooding and gossiping – Data centric Routing – SPIN – Directed Diffusion – Energy aware routing - Gradient-based routing - Rumor Routing – COUGAR – ACQUIRE – Hierarchical Routing - LEACH, PEGASIS – Location Based Routing	Dr.B.Karthik
	AN	1.30 pm to 4 pm	GF, GAF, GEAR, GPSR – Real Time routing Protocols – TEEN, APTEEN, SPEED, RAP -	Ms.M.Jasmin

			Data aggregation - data aggregation operations - Aggregate Queries in Sensor Networks - Aggregation Techniques – TAG, Tiny DB	
29-9-2017	FN	9.00 am to 12.30 pm	Operating Systems for Wireless Sensor Networks – Introduction - Operating System Design Issues - Examples of Operating Systems – Tiny OS – Mate – Magnet OS – MANTIS - OSPM - EYES OS	Dr.S.Arulselvi
	AN	1.30 pm to 5 pm	SenOS – EMERALDS – PicOS – Introduction to Tiny OS – NesC – Interfaces and Modules- Configurations and Wiring - Generic Components - Programming in Tiny OS using NesC, Emulator TOSSIM.	Dr.B.Karthik
30-9-2017	FN	9.00 am to 12.30 pm	WSN Applications - Home Control - Building Automation - Industrial Automation - Medical Applications - Reconfigurable Sensor Networks - Highway Monitoring - Military Applications - Civil and Environmental Engineering Applications	Ms.M.Jasmin
	AN	1.30 pm to 5 pm	Wildfire Instrumentation - Habitat Monitoring - Nanoscopic Sensor Applications – Case Study: IEEE 802.15.4 LR-WPANs Standard - Target detection and tracking - Contour/edge detection - Field sampling.	Dr.B.Karthik

VALUE ADDED COURSE
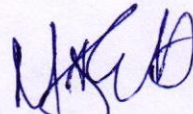
SCHOOL OF ELECTRICAL ENGINEERING

Course on Application of Sensor networks

List Of Participants

Date:26.09.2017

Sl.No	REG.N0	NAME OF THE CANDIDATE
1	U15EC002	AKHIL CHELLUBOINA
2	U15EC003	AKULA SUJITH KRISHNA
3	U15EC004	ALOK KUMAR
4	U15EC005	ALUVALA ARUN KUMAR GOUD
5	U15EC006	AMAYA E
6	U15EC007	AMBULA DEVI GOWTHAM
7	U15EC009	AMMISETTI AVINASH
8	U15EC010	ANKIT KUMAR DUBEY
9	U15EC015	ATTAR MOHAMMED TOUSIF
10	U15EC016	ATUKURI AVINASSH
11	U15EC017	BASETTY HIMABINDU
12	U15EC018	BOJJA PHANINDHRA REDDY
13	U15EC019	C. SHIVARAMAN SRIKANTH
14	U15EC020	CHANDAN PANDAY
15	U15EC021	CHAPARTHI KARTHIK
16	U15EC022	CHEKKA KESAVA PRAJWAL
17	U15EC023	CHITTIBOMMA SWATHI
18	U15EC024	DASARI HARI SAI KUMAR
19	U15EC025	DUDEKULA FAYAZ
20	U15EC026	DUDEKULA NOORNIYAZ
21	U15EC027	DUGYALA PREETHI
22	U15EC028	FAHIMA NASREEN S

23	U15EC030	GADE MOUNIKA
24	U15EC032	GORANTLA SRINADH
25	U15EC034	GUDIVADA HEMASAGAR
26	U15EC035	GUNDRATHI AJAY KUMAR
27	U15EC039	J PHANEENDRANATH
28	U15EC040	JAGALURU THIMMA REDDY
29	U15EC041	JAGARLAMUDI CHAITANYA
30	U15EC042	JAKKU MANIDEEP
31	U15EC044	JETTY SAI SUDHEER
32	U15EC046	JONNALAGADDA VENKATA MANOJ KUMAR
33	U15EC047	K O HARICHANDANA
34	U15EC050	KARICHETI BALAKRISHNA
35	U15EC091	NAMBURI VENKATA ANUSHA

(Dr.M.Sangeetha)
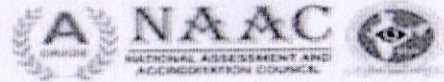
HOD/ECE
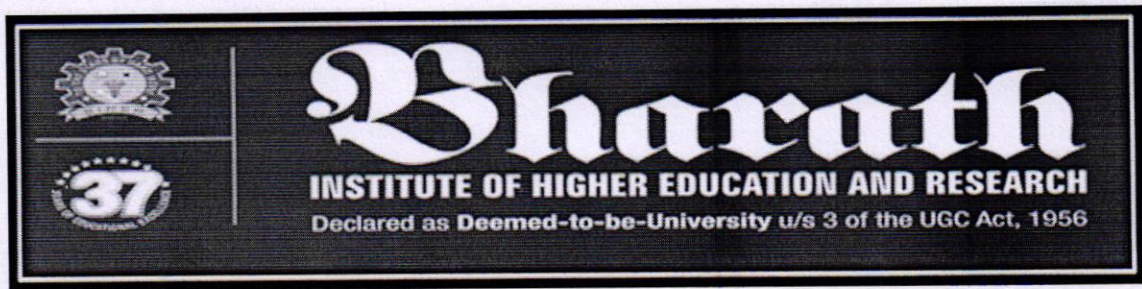
SCHOOL OF ELECTRICAL ENGINEERING

Course on Introduction toWireless sensor Networks dated on 26.09.2017 conducted by school of Electrical Engineering

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)

NAAC

ABET

SCHOOL OF ELECTRICAL ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that Mr / Ms **NAMBURI VENKATA SESHA ANUSHA(U15EC091**

has attended Value added Course On *"Introduction to Wireless Sensor*

Networks" organized by the School of Electrical Engineering, BIHER

conducted from 26-09-2017 to 30-09-2017.

M.SOWMIYA MANOJ
COURSE COORDINATOR

Dr.M.SANGEETHA
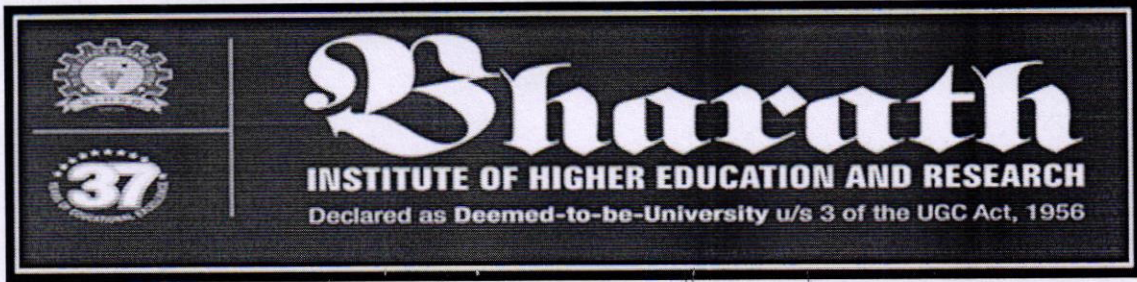CONVENOR
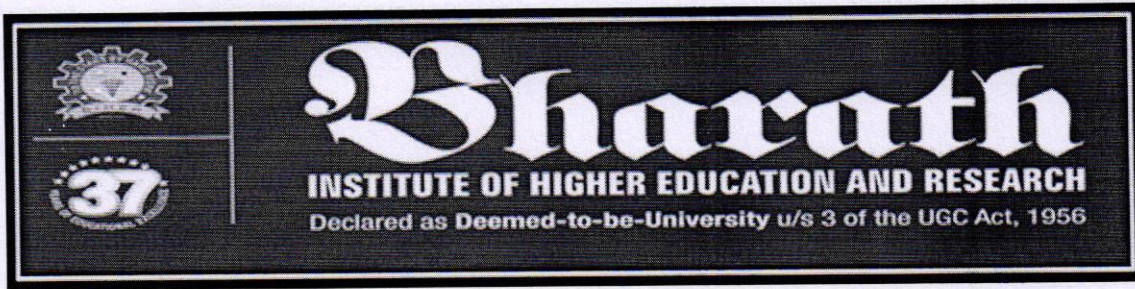
SCHOOL OF ELECTRICAL ENGINEERING

VALUE ADDED COURSE

Introduction to wireless Sensor Networks

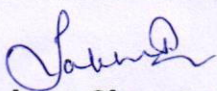| FEED BACK FORM				Date: 30.09.2017	
Name	UISEE026 / Prashant kumar pandey				
Register number	UISEE026				
Phone number	8136415209				
Email address	Prashant babe@gmail.com				
	Poor	Fair	Good	Very Good	Excellent
Overall Program				✓	✓
TheSpeaker				✓	
Audio,Visual Aids Technology used				✓	
Presentation hand outs			✓		✓

Student Signature

SCHOOL OF ELECTRICAL ENGINEERING

VALUE ADDED COURSE

Introduction to wireless Sensor Networks

FEED BACK FORM				Date: 30.09.2017	

Name	Jakku manideep				
Register number	U15EC042.				
Phone number	7342678901				
Email address	Jakku123@gmail.com				
	Poor	**Fair**	**Good**	**Very Good**	**Excellent**
Overall Program					✓
TheSpeaker				✓	
Audio,Visual Aids Technology used				✓	
Presentation hand outs			✓		

Student Signature