



SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534280

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
23CSP E04	INTERNET OF THINGS	VII	CSE	6	2026-2027	17-06-2026
COURSE OUTCOMES						
1	Explain the predecessor technologies and emergence of IoT.(K1)					
2	Describe sensing, actuation and processing topologies in IoT.(K1)					
3	Analyze IoT connectivity and communication technologies.(K3)					
4	Explain IoT interoperability and fog computing concepts.(K1)					
5	Illustrate IoT paradigms, challenges and case studies. (K4)					
UNIT	CO	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery method
I	Explain the predecessor technologies and emergence of IoT	1.1	Introduction to IoT	T1	1	Chalk and talk
		1.2	Wireless Sensor networks	T1	2	Chalk and talk
		1.3	Components of Sensor Node	T1	1	PPT
		1.4	Typical WSN Deployment	T1&T2	1	Chalk and talk
		1.5	Features of WSN	T1	1	Flipped teaching
		1.6	Machine-to-Machine Communication	T1&T2	2	Chalk and talk
		1.7	Cyber Physical Systems	T1	1	Active Learning
		1.8	Evolution and Emergence of IoT	T1	1	Chalk and Talk
		1.9	Enabling IoT and Complex Interdependencies of Technologies	T1	1	Chalk and Talk
		1.10	IoT Networking Components and Addressing Strategies	T1	1	Chalk and Talk
			Class test		1	
Total					13	
	Describe sensing, actuation and	2.1	Introduction to Sensing and Actuation	T1	1	Chalk and talk
		2.2	Sensors and Sensor	T1	2	PPT



SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534280

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

II	processing topologies in IoT		Characteristics			
		2.3	Sensorial Deviations	T1&T2	1	Flipped teaching
		2.4	Sensing Types and Considerations	T1&T2	2	PPT
		2.5	Actuators and Actuator Types	T1&T2	2	Chalk and talk
		2.6	Actuator Characteristics	T1	1	PPT
		2.7	Data Formats and Processing of IoT	T1	1	Chalk and talk
		2.8	Processing Topologies	T1	1	Chalk and talk
		2.9	Device Design, selection considerations and Processing Offloading	T1	1	Chalk and talk
			Class test		1	

Total

13

III	Analyze IoT connectivity and communication technologies.(K3)	3.1	Introduction to Connectivity	T1	1	Chalk and talk
		3.2	IEEE 802.15.4	T1	1	Chalk and talk
		3.3	Zigbee and Thread	T1&T2	2	PPT
		3.4	ISA100.11A and Wireless HART	T1	1	Chalk and talk
		3.5	RFID,NFC, DASH7 and Z-Wave	T1	2	Flipped teaching
		3.6	Weightless,Sigfox, LoRa and NB-IoT	T1&T2	1	Chalk and talk, PPT
		3.7	Wi-Fi and Bluetooth	T1	1	Chalk and talk, PPT
		3.8	Infrastructure Protocols,Discovery and Data Protocols	T1	2	Chalk and talk, PPT
		3.9	Identification Protocols,Device Management,semantic Protocols	T1	3	Chalk and talk, PPT



SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534280

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

			Class test		1	
Total					15	
IV	Explain IoT interoperability and fog computing concepts.(K1)	4.1	Introduction to Interoperability	T1	1	Chalk and talk
		4.2	Standards	T1	2	Chalk and talk
		4.3	Frameworks	T1	1	Chalk and talk
		4.4	Introduction to Fog Computing	T1&T2	2	Chalk and talk
		4.5	Fog Computing Architecture	T1	2	PPT
		4.6	Fog Computing Applications	T1	2	Chalk and talk
			Class test		1	
Total					11	
V	Illustrate IoT paradigms, challenges and case studies. (K4)	5.1	Introduction to IoT Paradigms	T1&T2	1	Chalk and talk, PPT
		5.2	Evolution of New Paradigms	T1&T2	2	Chalk and talk
		5.3	Challenges in IoT	T1&T2	2	Chalk and talk
		5.4	Emerging Pillars of IoT	T1	1	Flipped teaching
		5.5	Agricultural IoT Case Study	T1&T2	2	Chalk and talk
		5.6	Vehicular IoT Case Study	T1	2	PPT
		Content beyond Syllabus			1	PPT
			Class test		1	
Total					12	
CUMULATIVE PROPOSED PERIODS					64	
Text Books:						
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION					
1	Sudip Misra, Anandarup Mukherjee, Arijit Roy, Introduction to IoT, Cambridge University Press, 1st Edition, 2021					
2	Rajkamal, Internet of Things: Architecture, Design Principles and Applications, McGraw Hill Higher Education, 1st Edition					



SWARNANDHRA COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Narsapur, West Godavari District, A.P. 534280

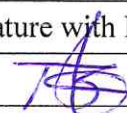
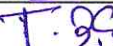
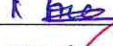
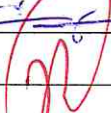
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Reference Books:

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Rajkumar Buyya (Editor), Satish Narayana Srirama (Editor), <i>Fog and Edge Computing: Principles and Paradigms</i> , Wiley, 1st Edition, 2019
2	Cuno Pfister, <i>Getting Started with the Internet of Things</i> , O'Reilly Media, 1st Edition

Web Details

S.No.	Web Details
1	https://en.wikipedia.org/wiki/Internet_of_things
2	https://en.wikipedia.org/wiki/Wireless_sensor_network
3	https://en.wikipedia.org/wiki/Machine_to_machine
4	https://en.wikipedia.org/wiki/Cyber-physical_system
5	https://www.tutorialspoint.com/internet_of_things/index.htm
6	https://en.wikipedia.org/wiki/Sensor
7	https://en.wikipedia.org/wiki/Actuator
8	https://en.wikipedia.org/wiki/Zigbee
9	https://en.wikipedia.org/wiki/LoRa
10	https://en.wikipedia.org/wiki/Bluetooth
11	https://en.wikipedia.org/wiki/Radio-frequency_identification
12	https://en.wikipedia.org/wiki/Fog_computing
13	https://en.wikipedia.org/wiki/Internet_of_Things_Architecture
14	https://www.ibm.com/topics/internet-of-things
15	https://www.cisco.com/c/en/us/solutions/internet-of-things/what-is-iot.html

	Name	Signature with Date
i. Faculty I	Mr. B. HARI	 10/7/26
ii. Faculty II	Mr. K.CH.S. PRABHAKAR RAO	 10/7/26
iii. Faculty III	Mrs. T. N. D. KARUNA SREE	 10/7/26
iv. Faculty IV	Mr. S.CHANTI	 10/7/26
v. Course Coordinator	Mr. K.CH.S. PRABHAKAR RAO	 10/7/26
vi. Module Coordinator	Mr. K. RAJESH KUMAR	 10/7/26
vii. Programme Coordinator	Dr. P. SRINIVASULU	

HOD

Principal