Swarnandhra College of Engineering & Technology

Autonomous and recognized under 2(F) and 12(B) by UGC

Recognized by AICTE, permanently affiliated to JNTUK Kakinada

Accredited by NAAC with 'A' Grade (2nd Cycle)

Seetharamapurm, Narsapur – 530280 (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods /Week	Academic Year	Date of commencement
20IT6T02	INTERNET OF THINGS	VI	IT	5	2024-25	18-11-2024

COURSE OUTCOMES	
1	Outline the concepts of IoT and apply IoT to different applications. (K2)
2	Utilization of Devices, Gateways and Data Management in IoT. (K3)
3	Analyze and evaluate protocols used in IoT. (K4)
4	Identify how IoT differs from traditional data collection systems. (K3)
5	Illustrate the role of big data, cloud computing and data analytics in a typical IoT system. (K2)

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Ref	Contact Hour	Delivery Method
I	CO – 1		**Unit-1:** An Overview of Internet of things			
		1.1	An Overview of Internet of things	T2	1	Chalk & Board Power point presentations Assignment Test
		1.2	Internet of Things Technology	T2	1	
		1.3	Behind IoTs	T2	2	
		1.4	Sources of the IoTs	T2	1	
		1.5	M2M Communication	T2	1	
		1.6	Examples of IoTs	T2	2	
		1.7	Design Principles For Connected Devices	T2	2	
		1.8	Internet Connectivity Principles and Internet connectivity	T2	1	
		1.9	Application Layer Protocols: HTTP, HTTPS, FTP, Telnet.	T1,T2	2	
Content beyond syllabus		1.9	Domain - Specific IoTs	R1	1	NPTEL Video
				Total	14	
II	CO – 2		**Unit-2:** Business Process in IOT			
		2.1	Business Models for Business Processes in the Internet of Things	T1,T2	2	Chalk

		2.2	IoT/M2M systems layers and designs standardizations	T1,T2	2	& Board
		2.3	Modified OSI Stack for the IoT/M2M Systems	T1	2	Power point presentations Assignment Test
		2.4	ETSI M2Mdomains and High-level capabilities	T1,T2	2	
		2.5	Data Enrichment and Consolidation and Device Management Gateway Ease of designing and affordability	T1,T2	2	
Content beyond syllabus		2.6	IoT Supported Hardware platforms	R2	1	Video Lecture
				Total	11	
III	CO – 3		**Unit-3: Design Principles for the Web Connectivity**			
		3.1	Design Principles for the Web Connectivity for connected-Devices	T1,T2	2	Chalk & Board
		3.2	Web Communication protocols for Connected Devices	T1,T2	2	Power point presentations
		3.3	Message Communication protocols for Connected Devices	T1,T2	3	
		3.4	Web Connectivity for connected-Devices.	T1,T2	2	Assignment Test
Content beyond syllabus		3.5	APIs/Packages and Web Services	R1	1	Experimenta Learning
				Total	10	
IV	CO – 4		**Unit-4:** Data Acquiring for IoT			
		4.1	Data Acquiring	T1,T2	1	Chalk & Board Power point presentations Assignment Test
		4.2	Organizing and Analytics in IoT/M2M	T1,T2	1	
		4.3	Applications /Services /Business Processes	T1,T2	1	
		4.4	IOT/M2M Data Acquiring and Storage	T1,T2	1	
		4.5	Business Models for Business Processes in the Internet Of Things	T1,T2	2	
		4.6	Organizing Data	T1,T2	1	
		4.7	Transactions	T1,T2	2	
		4.8	Business Processes	T1,T2	2	
		4.9	Integration and Enterprise Systems.	T1,T2	1	
Content beyond syllabus		4.10	IoT Design Methodology	T2		NPTEL Video
				Total	13	
V	CO – 5		**Unit-5: Data Collection**			
		5.1	Data Collection, Storage and Computing Using a Cloud Platform for IoT/M2MApplications/Services	T1,T2, R3	2	Chalk & Board

		5.2	Storage and Computing Using cloud platform Everything as a service , Evaluation of Candidate Rules, Applications of Association Rules	T2,R3	2	Power point presentations Assignment Test
		5.3	Cloud Service Models, IOT cloud-based services using the Xively(Pachube/COSM)	T2,R3	2	
		5.4	Nimbits and other platforms Sensor	T1,T2, R3	2	
		5.5	Actuator, Radio Frequency Identification	T1,T2	1	
		5.6	Wireless, Sensor Network Technology	T1,T2	1	
		5.7	Sensors Technology, Sensing the World	T1,T2	1	
Content beyond syllabus		5.8	Connecting microcontroller with mobile devices.	T1, R1	1	Experimenta Learning
				Total	12	
				Cumulative Proposed Periods	60	

Text Books:

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Rajkamal, Internet of Things: Architecture, Design Principles and Applications, McGraw Hi Higher Education, 2021, 3rd Edition.
2	A.Bahgya and V.Madisetti, Internet of Things, Univesity Press, 2015

Reference Books:

S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Adrian McEwen and Hakim Cassimally, Designing the Internet of Things, Wiley.
2	CunoPfister, Getting Started with the Internet of Things Oreilly .

Web Details:

1	https://www.geeksforgeeks.org/introduction-to-internet-of-things-iot-set-1/
2	https://cloud.arduino.cc/

		Name	Signature with Date
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