



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech Computer Science & Engineering		
Course Title	Internet of Things		
Course Code	CSEO17		
Course Code of Pre-requisite subject(s)	NIL	No. of Credits	3
Session	July 2022	Section (if Applicable)	-
Name of Faculty	P. Deepavathi M. Ratna Raju	Department	CSE
Official Email	406119004@nitt.edu 406120003@nitt.edu	Telephone No.	
Name of Course Coordinator(s) (if, applicable)	NA		
Official E-mail	-		
Course Type (please tick appropriately)	Open Elective (OE)		
Syllabus (approved in BoS)			
Refer the Link: https://www.nitt.edu/home/academics/curriculum/B.Tech-CSE-2022.pdf (Page Number 183)			
COURSE OBJECTIVES			
<ul style="list-style-type: none">• To learn the basic issues, policy and challenges in the Internet• To get an idea of some of the application areas where Internet of Things can be applied• To understand the cloud and internet environment• To understand the various modes of communications with Internet• To understand about web of things			
MAPPING OF COs with POs			
Course Outcomes	Programme Outcomes (PO)		
Identify the components of IoT	PO1,PO3,PO6,PO11		
Analyze various protocols of IoT	PO2,PO4,PO6,PO9,PO11		
Design portable IoT using appropriate boards	PO1,PO3,PO6,PO8,PO11		
Develop schemes for the applications of IOT in real time scenarios	PO1,PO3,PO4,PO6,PO10		
Design business Intelligence and Information Security for WoT	PO1,PO3,PO5,PO6,PO8,PO11		



COURSE PLAN – PART II

COURSE OVERVIEW

This course provides an overview of the Internet of Things, its communication protocols and overview of the Web of Things and Cloud of Things.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No	Week / Contact Hours	Topic	Mode of Delivery
			PPT/ Chalk and Talk
UNIT I - Introduction			
1	1	Definition, Foundations, Challenges and Issues, Identification, Security	√
2	2,3	Components in internet of things: Control Units, Sensors, Communication modules, Power Sources	√
3	4	Communication Technologies, RFID,Bluetooth	√
4	5,6	Zigbee, Wifi, Rflinks	√
6	7	Mobile Internet, Wired Communication	√
7	8	IoT Platform Overview , Raspberry pi, Arduino boards.	√
UNIT II - IoT Protocols			
8	9	Protocol Standardization for IoT	√
9	10,11	M2M and WSN Protocols	√
10	12	SCADA and RFID Protocols	√
11	13,14	Issues with IoT Standardization,Protocols	√
12	15	IEEE 802.15.4, BACNet Protocol	√
13	16	Zigbee Architecture	√
14	17	Network layer	√
16	18	APS Layer Security	√
UNIT III - Resource Management in the Internet of Things			
17	19,20	Clustering , Software Agents	√
18	21, 22	Data Synchronization, Clustering Principles in an Internet of Things Architecture	√



19	23	The Role of Context , Design Guidelines	√	
20	24	Software Agents for Object Data Synchronization	√	
21	25	Types of Network Architectures , Fundamental Concepts of Agility and Autonomy	√	
22	26	Enabling Autonomy and Agility by the Internet of Things	√	
23	27	The Evolution from the RFID-based EPC Network to an Agent based Internet of Things	√	
24	28	Agents for the Behaviour of Objects.	√	
UNIT IV - Case Study and IoT Application Development				
25	29	IoT applications in home infrastructures security Industries	√	
26	30	IoT electronic equipments	√	
27	31	Use of Big Data and Visualization in IoT	√	
28	32	Industry 4.0 concepts	√	
29	33	Sensors and sensor Node	√	
30	34	Interfacing using Raspberry Pi/Arduino	√	
31	35	Web Enabled Constrained Devices	√	
UNIT V - Web of Things				
32	36	Web of Things versus Internet of Things, Architecture Standardization for WoT	√	
33	37	Platform Middleware for WoT - WoT Portals and Business Intelligence	√	
34	38	Cloud of Things: Grid/SOA and Cloud Computing ,Cloud Standards	√	
35	39,40	Cloud of Things Architecture - Open Source e-Health sensor platform	√	
COURSE ASSESSMENT METHODS (shall range from 4 to 6)				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage



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1	Cycle Test – 1	As per the academic schedule	1 Hour	20
2	Cycle Test – 2	As per the academic schedule	1 Hour	20
3	Assignment 1	7 th week	NA	5
4	Assignment 2	10 th Week	NA	5
CPA	Compensation Assessment*	As per the academic schedule	1 Hour	20
4	Final Assessment *	As per the academic schedule	3 Hours	50

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

Feedbacks are collected before final examination through MIS or any other standard format followed by the institute.

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

Email : 406119004@nitt.edu, 406120003@nitt.edu

COMPENSATION ASSESSMENT

One Retest will be conducted for absentees in Cycle Tests, for genuine reasons

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

At least 75% attendance in each course is mandatory.

A maximum of 10% shall be allowed under On Duty (OD) category.

- Students with less than 75% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

Possessing a mobile phone, carrying bits of paper, talking to other students, or copying from others during an assessment will be treated as a punishable offence.



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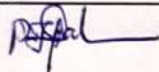
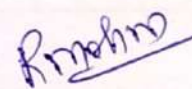
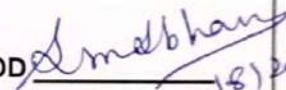
Zero marks are to be awarded to the offenders. For copying from another student, both students get the same penalty of zero mark.

- The departmental disciplinary committee including the course faculty member, PAC chairperson, HoD and other members, shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable to all the programmes.

ADDITIONAL INFORMATION, IF ANY

The Course Coordinator is available for consultation during official timings

FOR APPROVAL

Course Faculty  CC- Chairperson  HOD 
22/8/2022