PVP 20

Code: 20ES1402

II B.Tech - II Semester – Supplementary Examinations
NOVEMBER 2024

INTERNET OF THINGS
(Common for CSE, AIML, DS)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

		UNIT – I	
1.	a)	Explain briefly IoT Reference model published by IoT World Forum.	10 M
	b)	Define IoT. Discuss Genesis of IoT with neat sketch.	4 M
		OR	
2.	a)	What are the IoT challenges and their impact by considering one real time example?	7 M
	b)	Discuss IoT impact on connected roadways and smart buildings in detail.	7 M
		UNIT – II	
3.	a)	Define sensors and actuators; explain how actuators and sensors interact with physical world with the neat diagram. Classify actuators based on power consumption.	10 M
	b)	Illustrate the various network topologies available in IoT connecting devices. Demonstrate them with help of diagram.	4 M

		OR	
4.	a)	Define smart object and explain the characteristics, Also provide the definition for SANET? Explain the advantages and disadvantages of it.	7 M
	b)	Compare and discuss the key features between IEEE 1901.2a and IEEE 802.11ah access technologies with respect to Physical and MAC layer.	7 M
		UNIT-III	
5.	a)	Explain about Arduino hardware, software and programming.	10 M
	b)	What is Microcontroller? How it is used in Embedded Computing?	4 M
		OR	
6.	a)	Demonstrate some notes on the Hardware and Openness of Arduino.	7 M
	b)	Articulate the various criteria to choose the platform for prototyping of IoT systems.	7 M
		UNIT – IV	
7.	a)	What is Internet Protocol? Select and summarize the IP between IPv4 and IPv6 which IP satisfies a better quality of service at the industry level.	7 M
	b)	Draw the header of TCP & UDP by demarking the fields with suitable data size. Explain with suitable example which is preferable in which type of application scenario.	7 M

		OR	
8.	a)	Explain the following in detail: i. Dynamic and statistic IP Address Assignment ii. MAC Address	7 M
	b)	What is HTTP and what port does it use? Discuss the major differences between HTTP and HTTPS in detail.	7 M
		UNIT – V	
9.	a)	Explain the most common standards used for implementing the API.	7 M
	b)	Illustrate the concept of Mashing up API, Legalities, Scraping.	7 M
		OR	
10.	a)	Demonstrate the process for getting started with an API.	7 M
	b)	Examine the following while writing a new API. i. API Rate Limiting ii. Interaction via HTML iii. Designing a Web Application for Humans	7 M