A C EDUCATION

R18

Code No: 156DR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, August/September - 2021
FUNDAMENTALS OF INTERNET OF THINGS
(Common to EEE, CSE, IT)

Time: 3 Hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

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1.a)	Identify the link layer protocols in IoT.		
b)	Explain the functional blocks of IoT.	[7+8]	
2.a)	Demonstrate request-response communication model.		
b)	Discuss IoT network technologies.	[8+7]	
3.a)	Explain M2M system architecture.		
b)	Write the applications of M2M.	[7+8]	
4.a)	How to integrate sensors and actuators with Arduino?		
b)	Give the anatomy of Arduino program.	[7+8]	
5.a)	Explain the control structure in Python.		
b)	Write Python program to control LED on Raspberry Pi.	[7+8]	
6.a)	List and explain popular commands used in Raspberry Pi.		
b)	Steps to interface Raspberry Pi with a sensor.	[7+8]	
7.a)	Explain key elements of SDN.		
b)	Describe the steps for data acquiring in IoT implementation.	[7+8]	
8.a)	Explain the different services of Cloud computing.		
b)	Give the requirements and devices for interconnected transport system.	[7+8]	

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, February/March - 2022
FUNDAMENTALS OF INTERNET OF THINGS
(Common to CE, EEE, ME, CSE, EIE, IT, MCT)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1.a) Discuss the characteristics of IoT.
b) Explain how important are communication protocols when it comes to IoT? [5+10]

2.a) What is IoT? Explain evolutionary phases of the Internet.
b) Which protocol is used to link all the devices in the IoT? Explain in detail. [5+10]

3.a) Explain M2M service layer standardization.
b) Explain clearly, the procedure to interface an analog sensor with Arduino programming. [8+7]

4.a) What are the distributions supported by Raspberry Pi?
b) Write a Python program on Raspberry Pi to blink an LED. [7+8]

5.a) There are two models of Raspberry Pi, A and B. Which model is suitable for IoT applications? Justify your answer with necessary technical details by comparing the above two models.
b) How SDN can be used for various levels of IoT? [7+8]

6.a) Describe different Cloud Service Models.
b) Explain Data visualization and its importance in IoT. [7+8]

7.a) Discuss the role of Data Analytics in Internet of Things (IoT).
b) Construct the Design of Smart home with Raspberry Pi and other hardware devices with neat sketch. [7+8]

8.a) With a neat diagram, explain how actuators and sensors interact with physical world. Classify actuators based on energy type.
b) Explain Smart city security architecture. [7+8]

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used paper feb/mar-2022 jntuh