

R18

Code No: 157CD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, December-2023/January-2024

**INTERNET OF THINGS
(Computer Science and Engineering)**

Time: 3 Hours

Max.Marks:75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) Define IoT. [2]
- b) What is the role of things in IoT? [3]
- c) Define Network Function Virtualization. [2]
- d) What is the difference between M2M and IoT? [3]
- e) What do mean by module in python? [2]
- f) Define implicit conversion. [3]
- g) Define Arduino. [2]
- h) List of available models in Raspberry Pi. [3]
- i) What is the function of a web server? [2]
- j) What is IoT Cloud? [3]

PART – B

(50 Marks)

- 2.a) Describe the IoT enabling Technologies with suitable explanations.
 - b) Explain smart home IoT application using figure. [5+5]
- OR**
- 3.a) Discuss the role of communication protocols and embedded systems in IoT.
 - b) Explain research directions of IoT. [5+5]
- 4.a) Explain reasons of shifting from M2M to IoT.
 - b) Describe the generic approach of IoT device management with NETCONF-YANG.[5+5]
- OR**
- 5.a) Compare and contrast between SDN and NFV.
 - b) Discuss in detail about IoT System Management with SNMP. [5+5]
- 6.a) How to declare and call functions in Python programs? Illustrate with an example script.
 - b) Write a python program to describe different ways of deleting an element from the given list. [5+5]

OR

7. Describe arithmetic operators, assignment operators, comparison operators, logical operators and bitwise operators in detail with examples. [10]

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- 8.a) Illustrate how to interface a Light sensor (LDR) with raspberry pi.
b) Write a short note on various raspberry pi interfaces used for data transfer. [5+5]
- 9.a) List out various single board computers which are alternatives to raspberry pi.
b) What is the use of SPI and I2C interfaces on raspberry pi? Explain. [5+5]

10. Explain various Cloud Storage Models in detail. [10]

OR

11. Discuss in detail about python web application framework designing a RESTful web API. [10]

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