

**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 – Data Science)****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 Internet of Things (IoT). [2]
- b) List out the applications of IoT. [3]
- c) What is SDN? [2]
- d) Write the limitations of M2M. [3]
- e) Write down the python code for creating a function. [2]
- f) What is type casting? Illustrate with an example in Python. [3]
- g) What is the functionality of GPIO pin? [2]
- h) State the need of I2c bus interface. [3]
- i) What is WAMP? [2]
- j) Write the purpose of Django. [3]

**PART – B****(50 Marks)**

- 2.a) Describe link layer protocols of IoT.
  - b) Explain the functional blocks of IoT. [5+5]
- OR**
- 3.a) Give a note on push-pull IoT communication model.
  - b) Explain, how IoT is useful in weather monitoring system. [5+5]
- 4.a) Explain the need of IoT management.
  - b) Discuss the layered architecture of SDN. [5+5]
- OR**
- 5.a) Compare IoT Vs M2M.
  - b) Explain NFV architecture with a neat sketch. [4+6]
- 6.a) Describe various data types in Python.
  - b) What is a tuple in Python? Explain its operations in detail. [5+5]
- OR**
- 7.a) Describe different control statements in Python.
  - b) Write steps to create file and write data to the file in using Python code. [5+5]

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- 8.a) Explain components of Raspberry Pi.
- b) Write Python program to control LED.

[5+5]

**OR**

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- 9.a) Write Python code for sending Email using switch.
- b) Explain different interfaces for IoT device.

[5+5]

- 10.a) Explain WAMP protocol.
- b) Discuss steps to create Django projects.

[5+5]

**OR**

- 11.a) What is Xively Cloud? Explain its purpose.
- b) Give the steps for reading data from Xively cloud.

[5+5]

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