

Code No: 156DR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, March - 2024

FUNDAMENTALS OF INTERNET OF THINGS

(Common to CE, EEE, ME, CSE, EIE, MCT, CSBS, CE(SE), CSE(CS), CSE(AI&ML), CSE(DS), CSE(IOT))

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) What is CoAP? [2]
- b) Describe HTTP request methods and actions. [3]
- c) What are IoT components? [2]
- d) Explain about M2M communications. [3]
- e) What is Raspberry Pi? [2]
- f) What are string methods in Python? [3]
- g) What are advantages of SDN? [2]
- h) What are Hadoop configuration files? Explain. [3]
- i) What is cloud computing? [2]
- j) Explain about sensor-cloud. [3]

PART – B**(50 Marks)**

- 2.a) What are characteristics of IoT? Explain in detail. [5+5]
- b) Explain about communication protocols. [5+5]
- OR**
- 3.a) Discuss about IoT communication models. [5+5]
- b) What are things in IoT? Explain in detail. [5+5]
4. Discuss in detail about integration of sensor and actuators with Arduino in IoT. [10]
- OR**
5. What are differences between M2M and IoT? Explain. [10]
6. Describe Interfacing Raspberry Pi with basic peripherals. [10]
- OR**
7. Explain about functions and modules in Python programming. [10]
8. What is SDN? Explain in detail about SDN for IoT. [10]
- OR**
- 9.a) Explain about MapReduce job execution workflow. [5+5]
- b) Discuss about Oozie workflows for IoT data analysis. [5+5]
10. Describe the use of IoT in health care. [10]
- OR**
11. Discuss about smart irrigation and green house control using IoT. [10]