

Code No: 156DR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year II Semester Examinations, July - 2023****FUNDAMENTALS OF INTERNET OF THINGS**

(Common to CE, EEE, ME, EIE, MCT)

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 are the characteristics of IoT? [2]
- b) What are the IoT Protocols? [3]
- c) What are the trends in smart objects? [2]
- d) Discuss about Actuators? [3]
- e) What is the difference between List and Tuple? [2]
- f) What are the Raspberry Pi operating systems? [3]
- g) What are the key components of SDN? [2]
- h) What are the characteristics of Big Data? [3]
- i) What are the cloud computing technologies? [2]
- j) What are the advantages of cloud computing? [3]

PART – B**(50 Marks)**

- 2.a) Describe about the applications of IoT.
 - b) Write a short note on sensor networks. [5+5]
- OR**
3. Briefly explain about Functional blocks of IoT. [10]
- 4.a) Briefly explain the differences between IoT and M2M.
 - b) Write a short note on Arduino programming. [5+5]
- OR**
5. Which communication protocols are used for M2M local area networks? Explain in detail. [10]
- 6.a) Briefly explain about variable in Python.
 - b) Write a Python program to find largest of three numbers. [5+5]
- OR**
7. Write a procedure for capture Image using Raspberry Pi. [10]
 8. Briefly explain about Software Defined Network architecture. [10]
- OR**
9. Briefly explain the SDN for IoT architecture. [10]

- 10.a) Discuss about History of cloud computing.
b) Write a short note on cloud service models.

[5+5]

OR

- 11.a) Describe about the components of cloud computing architecture.
b) Write a short note private cloud.

[5+5]

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Used paper July/Aug-2023