

Code No: 156BJ**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, February - 2023****INTERNET OF THINGS****(Information Technology)****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 the role of things and internet in IoT? [2]
- b) What are the components of an IoT system? [3]
- c) What are the differences between M2M and IoT in terms of devices and data collection? [2]
- d) Define NETCOZF. [3]
- e) Which library is used for file handling in Python? [2]
- f) What does timestamp () do in Python? [3]
- g) Define SPI. [2]
- h) What are the interfaces of Raspberry Pi in IoT? [3]
- i) What are communication APIs in IoT? [2]
- j) What is RESTful web API in IOT? [3]

PART – B**(50 Marks)**

- 2.a) Which of the communication protocols are used by IoT?
 - b) Explain the different characteristics of IoT. [5+5]
- OR**
- 3.a) What is role of Cloud Computing and Big Data in Internet of Things? Explain.
 - b) Explain the logical design of IoT in detail. [5+5]
- 4.a) Give a brief note on on NETCONF protocol layers.
 - b) Write the difference between SDN and NFV. [5+5]
- OR**
- 5.a) How machines in M2M network exchange data with respect to M2M gateway?
 - b) Why we need IoT systems management? [5+5]
6. Explain in detail about HTTPLib, URLLib packages in python. [10]
- OR**
- 7.a) Write the different Data types of Python.
 - b) How do you perform file operations in Python? [5+5]

- 8.a) Why is Raspberry Pi used for IoT devices?
b) How to program Raspberry Pi using Python? [5+5]

OR

- 9.a) Define Raspberry Pi and Write its features.
b) Describe the relative strengths and limitations of Building IOT with RASPBERRY PI. [5+5]

- 10.a) Write and explain any three basic APIs.
b) Give overview of Cloud storage models in brief. [5+5]

OR

- 11.a) How to create web server for IoT?
b) What are three different uses of cloud in IoT? [5+5]

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