

Code No: 155EM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year I Semester Examinations, March - 2024****DATA ANALYTICS FOR IOT****(Computer Science and Engineering - 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) Define IoT. [2]
- b) List any three practical difficulties of IoT implementation. [3]
- c) Give example for IoT QoS level 0 and level 1. [2]
- d) What is AODV protocol principle? [3]
- e) Define NIST cloud characteristics. [2]
- f) What are Amazon Kinesis analytics? [3]
- g) Define 'data completeness' in IoT. [2]
- h) What do you mean by IoT information lag? [3]
- i) What is the importance of objective function in ML? [2]
- j) What are precision and recall? [3]

PART – B**(50 Marks)**

2. Explain the following IoT analytics challenges:
 - a) Data Volume
 - b) Problems with time. [5+5]
- OR**
3. Summarize the issues of 'data quality' for IoT analytics and discuss how this will challenge the value returns of organizations. [10]
4. Discuss about message queues telemetry transport protocol. State its advantages and disadvantages. [10]
- OR**
5. Write about HTTP and REST protocols in detail. [10]
6. Summarize the 'Core elastic analytics concepts'. [10]
- OR**
7. Describe about Microsoft azure IoT hub and its services to IoT devices. [10]
8. Explain about the role of 'R programming and R Studio' in statistical analysis. [10]
- OR**
9. Explain different techniques to understand 'data quality'. [10]

10. What is machine learning? Write about representation, evaluation, and optimization. [10]

OR

11. Elaborate the methods for handling missing values. [10]

---ooOoo---

Used Papers March-2024