

Code No: 156FE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, July - 2023

IOT COMMUNICATION PROTOCOLS

(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. List its applications. [2]
- b) What are the various IoT enabled technologies? [3]
- c) Explain IoT service functional group. [2]
- d) List the various views of IOT Reference architecture. [3]
- e) Differentiate between PHY and MAC. [2]
- f) Write MAC layer (IEEE 802.11) features in IoT. [3]
- g) Write the properties of 6LoWPAN protocol. [2]
- h) What is Internet Control Message Protocol (ICMP)? [3]
- i) Compare MQTT and AMQP. [2]
- j) Give the features of CoAP. [3]

PART – B**(50 Marks)**

2. Discuss IoT architecture with a neat sketch. [10]
- OR**
- 3.a) Briefly explain about the working of IoT gateways. [5+5]
 - b) How to manage M2M data in IoT? Explain. [5+5]
4. Discuss about Information view of IoT reference architecture. [10]
- OR**
5. Explain technical design constraints of IoT reference architecture. [10]
6. Illustrate various data link layer protocols. [10]
- OR**
7. Elucidate Zigbee smart energy protocol. [10]
- 8.a) Explain Network Layer-IPv4, IPv6 protocols in IoT. [5+5]
 - b) Describe Dynamic Host Configuration Protocol in IoT. [5+5]
- OR**
9. Discuss in detail about Channel-Aware Routing Protocol (CARP). [10]
10. Write short notes on the following: [5+5]
 - a) Multi Path TCP
 - b) XMPP
- OR**
11. Explain Message Queuing Telemetry Transport (MQTT) protocol with a neat sketch. [10]