

6	Which technology is known for its long-range capability and low-power consumption, making it suitable for wide-area IoT deployments? A) Sigfox B) LoRaWAN C) NeUL D) 5G	1	2	4	1,2	2.1.3
7	Which network simulator is commonly used for analyzing the performance of 4G LTE networks in IoT scenarios? A) IFogSim B) NS3 C) PVFOg simulator D) FogTorch	1	2	5	1,2	2.1.1
8	Which protocol is used for real-time messaging and presence information exchange in IoT applications? A) XMPP B) AMQP C) MQTT D) CoAP	1	1	5	1,2	2.1.1
9	Which architectural approach leverages software-defined networking (SDN) for managing distributed fog computing resources? A) iFogSim B) Cisco IoX C) PVFOg simulator D) Software Defined Multi-Tier Fog Architecture	1	2	5	1,2	2.1.2
10	What does 5G technology primarily enable in IoT applications compared to previous generations? A) Higher data storage capacity B) Lower power consumption C) Ultra-reliable low-latency communication (URLLC) D) Better compatibility with legacy protocols	1	2	5	1,2	2.1.2

Part – B (4 X 10 = 40 Marks)						
Answer any 4 questions						
Q. No	Question	Marks	BL	CO	PO	*PI Code
11	Explain the significance of data acquisition in IoT systems. How does fog computing facilitate efficient data collection from distributed IoT devices?	10	3	3	1,2	2.5.2
12	Describe the role of MQTT and COAP protocols in IoT communication. How do these protocols support efficient data exchange in fog computing environments?	10	3	3	1,2	2.5.2
13	Compare and contrast Bluetooth, Zigbee, Z-wave, and 6LowPAN communication protocols in terms of their suitability for different IoT applications.	10	3	4	1,2	2.7.2
14	Explain the role of WiFi in IoT connectivity. How does Contiki/Cooja simulate and optimize WiFi network performance in IoT deployments?	10	3	4	1,2	2.7.2
15	Discuss the role of low-power lossy network (LLN) routing protocols in IoT environments. How does FogTorch simulate and optimize routing decisions in such networks?	10	3	4	1,2	2.7.2