06/06/2026

BE SEM VIII (Choice base) Summer 2026 INFT

(3 Hours) [Total Marks: 80]

N.B. 1) Question No. 1 is compulsory
2) Attempt any three from the remaining Questions No. 2 to No. 6.
3) Illustrate answers with diagrams wherever necessary.

Q 1. **Solve any four**

a) Differentiate briefly Physical design of IoT & logical design of IoT. 05

b) What is Fog Computing? State its advantages. 05

c) What is Internet of Behavior (IoB)? 05

d) Design a BLE-based IoT system for a smart healthcare application and explain how BLE is used in it. 05

e) Apply ZigBee technology to design a smart home automation system and explain its working. 05

Q 2. a) Analyze emerging IoT trends and evaluate their impact on modern technology and industry. 10

b) Explain the functional blocks of IoT architecture in detail with diagram. 10

Q 3. a) Explain RFID and NFC technologies in detail with working and applications. 10

b) Demonstrate how WebSocket protocol can be used to implement a real-time IoT monitoring system. 10

Q 4. a) Illustrate the use of MQTT protocol in a smart city application with appropriate message flow. 10

b) Describe the hierarchy of Edge, Fog and Cloud computing in IoT. 10

Q 5. a) Describe the role of NoSQL in IoT Data Analytics Challenges. 10

b) Analyze LoRaWAN architecture and evaluate its suitability for large-scale IoT deployments. 10

Q 6. **Solve any two** 20

a) Apply CoAP protocol to design a constrained IoT device communication system.

b) Illustrate the components of IEEE architecture with advantages.

c) Discuss IoT application in agriculture (Smart Irrigation) with working principles.

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