

B.Sc.(IT) Semester - 6 (CBCS) Examination
March/April-2026 (NEW COURSE)
Internet of Things (IOT) (Core (New))

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que. 1 (A) Attempt following questions. (03)
- 1) What is M2M communication?
 - 2) What is the function of IoT gateways?
 - 3) What is local area networking in IoT?
- Que. 1 (B) Attempt following. (Attempt Any Two) (06)
- 1) Explain the concept of Internet of Things and its key characteristics.
 - 2) Explain the role of IoT in digital transformation.
 - 3) Explain the standard IoT architecture outline in detail.
 - 4) Explain the architecture of an M2M system.
- Que. 1 (C) Attempt following. (Attempt Any One) (05)
- 1) Explain different applications of IoT in detail.
 - 2) Explain the importance of IoT gateways in data communication.
- Que. 2 (A) Attempt following questions. (03)
- 1) What is the state of the art in IoT architecture?
 - 2) What is an information view in IoT architecture?
 - 3) 3GPP stands for _____.
- Que. 2 (B) Attempt following. (Attempt Any Two) (06)
- 1) Explain real-world design constraints in IoT systems.
 - 2) Explain the concept of reference architecture in IoT and its importance.
 - 3) Explain the state of the art in IoT architecture.
 - 4) Explain different IoT architectural view in detail.
- Que. 2 (C) Attempt following. (Attempt Any One) (05)
- 1) Explain real-time visualization in IoT systems with examples.
 - 2) Explain real-world applications of interaction and remote control in IoT.
- Que. 3 (A) Attempt following questions. (03)
- 1) What is RPL?
 - 2) What is CORPL?
 - 3) ICMP stands for _____.
- Que. 3 (B) Attempt following. (Attempt Any Two) (06)
- 1) Explain the role of the Data Link Layer and Network Layer in IoT architecture.
 - 2) Discuss the architecture and features of Bluetooth Low Energy.
 - 3) Explain features and benefits of Zigbee Smart Energy.
 - 4) Explain how RPL supports low-power and lossy networks.

- Que. 3 (C) Attempt following. (Attempt Any One) (05)
- 1) Explain WirelessHART Protocol in detail.
 - 2) Discuss CARP protocol and its applications in IoT.
- Que. 4 (A) Attempt following questions. (03)
- 1) TLS stands for _____.
 - 2) UDP stands for _____.
 - 3) HTTP stands for _____.
- Que. 4 (B) Attempt following. (Attempt Any Two) (06)
- 1) Explain UDP and its importance in IoT.
 - 2) Explain Transport Layer Security (TLS) and its role in IoT security.
 - 3) Explain Datagram Transport Layer Security (DTLS).
 - 4) Explain HTTP protocol and its use in IoT systems.
- Que. 4 (C) Attempt following. (Attempt Any One) (05)
- 1) Differentiate between TCP V/S UDP.
 - 2) Explain MQTT protocol and its architecture.
- Que. 5 (A) Attempt following questions. (03)
- 1) SSL stands for _____.
 - 2) OMA stands for _____.
 - 3) What is oneM2M?
- Que. 5 (B) Attempt following. (Attempt Any Two) (06)
- 1) Explain the oneM2M standard and its objectives.
 - 2) Explain ETSI M2M architecture and its role in IoT.
 - 3) Explain security objectives of the RPL routing protocol.
 - 4) Explain the role of secure application protocols in IoT.
- Que. 5 (C) Attempt following. (Attempt Any One) (05)
- 1) Explain security mechanisms provided by IEEE 802.15.4.
 - 2) Explain the role of BBF in IoT and M2M communications.
