

**Computer Science & Engineering**  
**BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)**  
**B. Tech. Sem - VII CS&E : WINTER : 2024**  
**SUBJECT: ITC-V: INTERNET OF THINGS**

Day : Wednesday  
Date : 11/12/2024

W-25603-2024

Time : 02:30 PM-05:30 PM  
Max. Marks : 60

**N.B.**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat diagrams **WHEREVER** necessary.

**Q.1** What are the primary enabling technologies driving the Internet of Things ecosystem? Discuss their significance in the development and deployment of IoT Solutions. (10)

**OR**

**Q.1** Compare and construct the different communication models used in IoT deployments, such as point to point, star, mesh and hybrid. Give any one example. (10)

**Q.2** Explain Wireless HART, ZWave, Bluetooth low energy and Zigbee protocols in term of their suitability for IoT Applications. (10)

**OR**

**Q.2** Describe the role of each component (IPv4, IPv6, WPAN, RPL) in the network layer of IoT architecture. How do these protocols facilitate communication and routing in IoT networks? (10)

**Q.3** Compare and construct TCP, UDP, DCCP and SCTP Protocols in the context of IOT Communication. (10)

**OR**

**Q.3** Explain the functionality and use cases of HTTP, CoAP, XMPP, AMQP and MQTT protocols in IoT systems. (10)

**Q.4** What are the 3 major factor affecting IoT Security? Explain in detail. (10)

**OR**

**Q.4** What are the Security issues in IoT? Explain in detail. (10)

**Q.5** Explain the concepts of identify management, access control and secure communication in the context of IoT security. (10)

**OR**

**Q.5** Discuss the strategies and protocols for authentication devices and ensuring secure data exchange. (10)

**Q.6** Explain the concepts of software development prototyping in IoT projects. Discuss the importance of online components APIs And web APIs in accelerating IoT application. (10)

**OR**

**Q.6** Explain the concept of Raspberry Pi, Beagle Bone and Intel Galileo. (10)

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