

2054
M.E. Computer Science and Engineering (Cyber Security)
Second Semester
CSN-8206: Internet of Things Security

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

- I
- a) What are the considerations when choosing devices for IoT environment? Discuss in brief. (02)
 - b) What is the difference between a threat, vulnerability, and risk in the context of IoT security? Discuss in brief. (02)
 - c) What do you understand by an attack tree? Discuss in brief. (02)
 - d) What do you understand a hash function? List two commonly used cryptographic hash algorithms. (02)
 - e) Differentiate between the terms authentication, authorization and access control. (02)

SECTION - A

- II
- a) What are the main communication protocols used in IoT environments? Briefly discuss their characteristics. (05)
 - b) How can security considerations be effectively incorporated into the design and development of IoT systems? Discuss. (05)
- III
- a) What do you understand by threat modeling in IoT? What are its objectives? Discuss in detail. (05)
 - b) How can IoT devices be securely disposed of at the end of their lifespan to prevent data breaches and unauthorized access? What are the environmental considerations related to IoT device disposal? Discuss. (05)
- IV
- Write notes on the following:
- a) IoT Device Lifecycle (05)
 - b) Types of IoT Attacks (05)

SECTION - B

- V
- a) Write a note on the role of Cryptography in securing an IoT system. (05)
 - b) What are the key benefits of using cloud computing for IoT deployments? Discuss. (05)
- VI
- a) What are the different types of authentication credentials commonly used in IoT systems? Discuss. (05)
 - b) What are the key features of AWS IoT? Discuss. (05)
- VII
- Write notes on the following:
- a) Cryptographic Key Management (05)
 - b) Identity and Access Management (IAM) in IoT (05)

x-x-x