PAPER ID-310338

Roll No: ☐☐☐☐☐☐☐☐☐☐☐☐☐

BTECH
(SEM VII) THEORY EXAMINATION 2023-24
IOT SECURITY

TIME: 3 HRS   **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   Attempt *all* questions in brief.   2 x 10 = 20

Q no.	Question	Marks
a.	Why is there need of IoT Security?	2
b.	Define Fault Tree.	2
c.	What is Digital Signature?	2
d.	Define Cipher text and plain text.	2
e.	Define Authorization and Authentication.	2
f.	Explain IAM.	2
g.	Explain IoV.	2
h.	What are two practical steps that individuals can take to enhance privacy in their key personal IoT applications?	2
i.	Name two Cloud Services.	2
j.	State IoT security control needed for cloud.	2

SECTION B

2.   Attempt any *three* of the following: 10 x 3= 30

a.	Explain several attacks that are specifically targeted at IoT.	10
b.	Furnish a definition of cryptographic controls integrated into messaging and communication protocols for IoT.	10
c.	Explain all Access Management solutions for IoT.	10
d.	What are two simple measures individuals can adopt to improve privacy in their mobile Wireless Body Sensor Networks (WBSN) and participatory sensing applications?	10
e.	Explain the interconnection between the cloud and IoT architecture, detailing the nature of their relationship.	10

SECTION C

3.   Attempt any *one* part of the following: 10 x 1= 10

a.	Can you explain what is Internet of Things (IoT)? Outline the essential components required for designing an IoT device and offer an example of a device categorized as IoT.	10
b.	Why is security essential for IoT, and what methods can be employed to ensure its provision?	10

4.   Attempt any *one* part of the following: 10 x 1= 10

a.	List and provide explanations for several encryption techniques used for ensuring security in IoT?	10
b.	Explain a) Digital Signature b) Hash c) IoT node authentication	10

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5. **Attempt any *one* part of the following:** **10 x 1= 10**

a.	Can you provide a definition of authorization within Publish and Subscribe schemes?	10
b.	Outline the components that make up an IoT Identity and Access Management (IAM) infrastructure.	10

6. **Attempt any *one* part of the following:** **10 x 1= 10**

a.	How do lightweight privacy protection schemes contribute to securing data in smart buildings, and what specific steps can be taken to address vulnerabilities in these environments?	10
b.	Can you briefly explain how incorporating social features can enhance location privacy in Internet of Vehicles (IoV), and what ethical considerations should be kept in mind when utilizing such features?	10

7. **Attempt any *one* part of the following:** **10 x 1= 10**

a.	Provide an explanation of the security architecture for enterprise IoT in the cloud.	10
b.	Explain on-Devices Security and Privacy of IoT cloud.	10