SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai

V Semester

B.Tech.-Artificial Intelligence and Data Science

19AD505 – Internet of Things and AI

UNIT IV –QUESTION BANK -16 MARK

1. Vulnerabilities of IoT

Question:
Identify and discuss the common vulnerabilities associated with IoT devices. How do these vulnerabilities impact the overall security of IoT ecosystems? Provide examples to illustrate your points.

2. Security, Privacy & Trust for IoT

Question:
Analyze the importance of security, privacy, and trust in IoT systems. What are the key challenges in maintaining these aspects, and what measures can be implemented to enhance them? Discuss the implications of failing to address these concerns.

3. Security Requirements

Question:
What are the essential security requirements for IoT systems? Discuss how these requirements can be integrated into the design and implementation phases of IoT solutions. Provide examples of how adherence to these requirements can prevent security breaches.

4. Threat Analysis

Question:
Explain the process of threat analysis in the context of IoT. What methodologies can be used to identify and evaluate potential threats? Discuss how threat analysis informs the security strategy of an IoT system.

5. Use Cases and Misuse Cases

Question:
Differentiate between use cases and misuse cases in IoT applications. How can understanding

misuse cases contribute to more secure IoT design? Provide examples of both use and misuse cases in real-world IoT scenarios.

6. Introduction to Cloud Computing

Question:
Define cloud computing and explain its fundamental characteristics. How does cloud computing differ from traditional computing models? Discuss its relevance and advantages for IoT applications.

7. Role of Cloud Computing in IoT

Question:
Discuss the role of cloud computing in the IoT ecosystem. How does it facilitate data processing, storage, and analytics for IoT devices? Provide examples of specific IoT applications that leverage cloud computing effectively.

8. Cloud-to-Device Connectivity

Question:
Explain the concept of cloud-to-device connectivity in IoT. What are the challenges associated with implementing this connectivity, and how can they be addressed? Discuss its significance in real-time IoT applications.

9. Cloud Data Management

Question:
What are the key components of cloud data management for IoT systems? Discuss how effective data management strategies can enhance the performance and reliability of IoT applications. Provide examples of tools and technologies used in cloud data management.

10. Cloud Data Monitoring

Question:
Analyze the importance of cloud data monitoring in IoT systems. How can continuous monitoring improve system performance and security? Discuss the challenges associated with cloud data monitoring and potential solutions.

11. Cloud Data Exchange

Question:
Discuss the mechanisms of cloud data exchange in the context of IoT. What are the challenges and considerations when exchanging data between devices and the cloud? Provide examples of protocols and technologies that facilitate cloud data exchange.

12. Enhancing Risk Management by Pairing IoT with AI

Question:
Explain how pairing IoT with Artificial Intelligence (AI) can enhance risk management strategies. Discuss the benefits and potential challenges of this integration, providing examples of applications that demonstrate this synergy.

13. Privacy Concerns in IoT Systems

Question:
Examine the privacy concerns associated with IoT devices and applications. What strategies can be implemented to protect user privacy while still enabling functionality? Discuss the role of regulations in addressing privacy issues in IoT.

14. Security Frameworks for IoT

Question:
Identify and evaluate existing security frameworks for IoT systems. How do these frameworks address vulnerabilities and enhance the security posture of IoT applications? Provide examples of frameworks and their application in real-world scenarios.

15. Data Governance in Cloud IoT Solutions

Question:
Discuss the importance of data governance in cloud-based IoT solutions. What are the key principles and practices of effective data governance? How can organizations ensure compliance with data governance policies in IoT applications?

16. Future Trends in IoT Security and Cloud Computing

Question:
Analyze emerging trends in IoT security and cloud computing. How are advancements in

technology influencing these areas, and what implications do these trends have for the future of IoT applications and user trust?