

B. TECH. (MINOR) CBCS-2023  
B. TECH. (MINOR) Semester-I (Sem-III Level) CYBER SEC : WINTER : 2024  
SUBJECT: INFORMATION SECURITY

Day : Thursday  
Date : 19/12/2024

W-29441-2024

Time : 10:00 AM-01:00 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** Describe the key implementation and operational issues faced during the development of a secure system. (10)

**OR**

**Q.1** Evaluate the effectiveness of an encryption scheme by discussing its strengths and weaknesses and provide a detailed example of its algorithm. (10)

**Q.2** Analyze the potential consequences of security threats on an organization's assets, operations and reputation. (10)

**OR**

**Q.2** Illustrate the process of vulnerability assessment, identifying its key techniques and evaluate the effectiveness of commonly used vulnerability assessment tools. (10)

**Q.3** Compare and contrast the characteristics of DAC, MAC, RBAC and TBAC access control models, highlighting their strengths, weaknesses and applications scenarios. (10)

**OR**

**Q.3** Explain multilevel security and trusted computing concepts and develop an implementation strategy for integrating them into a secure cloud service environment. (10)

**Q.4** Discuss the role of international standards in shaping information security policies and explain two prominent standards in detail. (10)

**OR**

**Q.4** Summarize the processes involved in the Information Security Department's responsibility for auditing and reviewing security policies for continuous improvement in system security. (10)

**Q.5** Analyze the components of database security architecture and evaluate their roles in mitigating vulnerabilities and ensuring the overall security of a database system. (10)

**OR**

**Q.5** Enumerate common software security issues and describes their relevance in the software development process. (10)

**Q.6** Explain the key steps involved in developing a business continuity plan that addresses risks from both natural and man-made disasters. (10)

**OR**

**Q.6** Design a case study on the 9/11 tragedy, focusing on the interrelationships between business continuity planning, disaster recovery and information security audits. (10)

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