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III Semester M.C.A. Degree Examination, May/June - 2025
COMPUTER APPLICATIONS
Cryptography and Network Security (Elective)
(CBCS Scheme Y2V21)

Time : 3 Hours**Maximum Marks : 70****Instructions to Candidates :**

- 1) Answer any Five questions from Part - A, each carries Six marks.
- 2) Answer any Four questions from Part - B, each carries Ten marks.

PART - A

Answer any Five of the following questions. Each question carries 6 marks.(5×6=30)

1. Explain the concept of security services.
2. Describe the OSI security Architecture.
3. Explain the principles of Block cipher.
4. What is the difference between Block cipher and stream cipher.
5. State and explain Fermat's Theorem.
6. Explain RSA Algorithm.
7. Discuss the concept of Digital signatures.
8. Write a detailed note on Intrusion Detection System (IDS).

PART - B

Answer any Four of the following questions. Each question carries 10 marks.

(4×10=40)

1. Discuss the various classical Encryption Techniques. Provide examples to illustrate their operation.
2. What are the different types of security Attacks? Explain in detail.

[P.T.O.]



3. Explain the CBC (Cipher Block Chaining) and ECB (Electronic code Block) Mode of operation.
 4. What is Chinese Remainder Theorem? Explain in detail with example.
 5. Explain the X.509 certificate Format.
 6. Define a firewall and discuss its types, working mechanism and role in network security.
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