

S.No. 7258

P 20 MCAE 8

(For candidates admitted from 2020–2021 onwards)

M.C.A. DEGREE EXAMINATION, NOVEMBER 2023.

Computer Applications — Elective

COMPUTER NETWORK AND SECURITY

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. Write down the uses of computer network.
2. Write a note on Point-to-point links.
3. What is Data origin authentication?
4. Define Digital Signature.
5. What is steganography?
6. Define the monoalphabetic cipher.
7. How does a one-way function work?
8. What are three broad categories of applications of public-key cryptosystems?

9. What is RFC 5322?
10. Why is R64 conversion useful for an e-mail application?

PART B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) Write short notes on Wireless LANs, Wireless WANs.

Or

- (b) Write short notes on ARPANET.

12. (a) Difference between Passive and Active attacks.

Or

- (b) Explain the challenges of computer and network security.

13. (a) What is the difference between a block cipher and a stream cipher?

Or

- (b) Briefly describe AddRoundKey.

14. (a) What basic arithmetical and logical functions are used in SHA?

Or

- (b) Write short notes on trap-door one-way function.

15. (a) Explain Cryptographic Algorithms Used in S/MIME.

Or

- (b) Discuss in detail about Malicious software.

PART C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Draw and explain the TCP/IP Reference Model.

17. List and briefly define the categories of security mechanisms.

18. Briefly describe the key expansion algorithm.

19. Discuss in detail about Message Authentication.

20. Write short notes on IP Security Policy.