

**Sixth Semester B.C.A. Degree Examination, September 2020**

(CBCS Scheme)

**Computer Science**

**CRYPTOGRAPHY AND NETWORK SECURITY**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates : All Sections are compulsory.

**SECTION - A**

I. Answer any **TEN** of the following :

**(10 × 1 = 10)**

1. Define cryptography.
2. What is cipher text?
3. What is data integrity?
4. Expand MIME.
5. Define certificate authority.
6. What is SET?
7. Define issuer.
8. Expand MAC.
9. Define DOI.
10. What is ESP?
11. Mention the modes of transport in network layer.
12. What is virus?

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SECTION – B

- II. Answer any **FIVE** of the following : **(5 × 3 = 15)**
13. Explain the security goals in cryptography.
  14. Differentiate between active attack and passive attack.
  15. Write the header format of MIME.
  16. Write a note on SSL handshake protocol message types.
  17. Explain authentication header.
  18. Explain any three benefits of IP security.
  19. Write a short note on how to choose a secure password.

SECTION – C

- III. Answer any **SIX** of the following : **(6 × 5 = 30)**
20. Write a note on model for network security.
  21. Explain the security mechanisms used in cryptography.
  22. Write a short note on PGP.
  23. Explain how email works.
  24. Explain the four protocols of transport layer in detail.
  25. Write a note on participants of SET systems.
  26. Explain combining security associations with four cases.
  27. Explain the approaches to intrusion detection.

SECTION - D

(5 × 7 = 35)

IV. Answer any **FIVE** of the following :

28. Explain the various types of cryptographic techniques with a neat labelled diagram.
29. Explain the X.509 certificate format.
30. What is Kerberos? Explain in brief the overview of Kerberos.
31. Explain SSL architecture with a neat diagram.
32. Write the frame format of TLS and explain the working of TLS.
33. Explain IP security architecture and services.
34. What is firewall? Explain its various types.

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