VI Semester B.C.A. Examination, May/June 2018
(CBCS) (F + R)
(2016-17 and Onwards)
COMPUTER SCIENCE
BCA – 603 : Cryptography and Network Security

Time : 3 Hours
Max. Marks : 100

Instruction : Answer all the Sections.

SECTION – A

Answer any ten questions. Each question carries two marks : (10x2=20)

1. What is cryptosystem ?
2. Define Hashing.
3. What are the basic properties of divisibility ?
4. Define cipher text with an example.
5. What is Brute Force attack ?
6. Write any two applications of RSA algorithm.
7. Define Encryption and Decryption.
8. What is Trapdoor one-way function ?
10. What is message padding ?
12. What are the protocols used to provide IP security ?

SECTION – B

Answer any five questions. Each question carries five marks. (5x5=25)

13. Discuss the classification of security goals.
15. Differentiate between block cipher and a stream cipher.
16. Explain Caesar cipher with an example.
17. Explain Fermat's little theorem.
18. What is primality test? Explain in brief.
20. Explain the practical applications of watermarking.

SECTION – C

Answer any three questions. Each carries fifteen marks. (3×15=45)
21. a) Explain in detail the taxonomy of attacks with relation to security goals. 10
    b) Discuss Extended Euclidean Algorithm. 5
22. a) Explain steps in DES Algorithm. 10
    b) Discuss any two modes of operations in DES. 5
23. a) State and explain Chinese Remainder Theorem with an example. 10
    b) Discuss different attacks on RSA. 5
24. a) Explain digital signature process with its security mechanism. 10
    b) Write a note on Kerberos. 5
25. a) Explain Public Key Infrastructure (PKI) in detail. 10
    b) Differentiate between MIME and S/MIME. 5

SECTION – D

Answer any one question. Each question carries ten marks. (1×10=10)
26. Explain Diffie-Helman key exchange technique with an example. 10
27. a) Explain SSL Handshake protocol action. 5
    b) Write a note on PGP services. 5