

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 : (10×2=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 ?
9. Explain Avalanche Effect.
10. What is message padding ?
11. Define digital signature.
12. What are the protocols used to provide IP security ?

SECTION – B

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

13. Discuss the classification of security goals.
14. Find GCD (2740, 1760) using Euclidean Algorithm.

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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.
19. Explain cipher Feedback Mode.
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

