

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2012 to 2014 Batch) (Sem.-5)
NETWORK SECURITY AND ADMINISTRATION

Subject Code : MCA-502

Paper ID : [A3160]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

- 1. SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks and students has to attempt any ONE question from each SECTION.**
- 2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**
- 3. Use of non-programmable calculator is allowed.**

SECTION-A

1.
 - a) What are different mechanisms of securing a computer network?
 - b) Compare and contrast the security definitions with various security attacks.
2.
 - a) How transposition ciphers differ from Playfair ciphers? Justify with an example.
 - b) What are various approaches of message authentication?

SECTION-B

3.
 - a) If $p = 3$ and $q = 11$, Using RSA algorithm ENCRYPT a message $m = 2$.
 - b) What is Kerberos? Explain Cross-realm Authentication.
4.
 - a) Differentiate between digital signatures and digital certificates.
 - b) Explain working mechanism of DES.

SECTION-C

5.
 - a) What are various problem of IP security? Give two examples.
 - b) What is the role of Authentication header in IP security? Explain.
6.
 - a) What is firewall? Explain its types.
 - b) What are various steps to configure software firewall in windows?

SECTION-D

7.
 - a) Discuss the use of PGP. How it enhances the Email-security?
 - b) Compare and contrast S/Mime with SSL.
8. Explain in detail the transport layer security policy for secure electronic transactions.

SECTION-E

9. **Write briefly :**
 - a) Man in the middle attack.
 - b) Mono-Alphabetic v/s Poly-Alphabetic ciphers.
 - c) "*PGP supports message authentication and integrity*". Comment on the statement.
 - d) Discuss the length of Authentication header field in IPv4.
 - e) Write briefly the criterion for encryption in S/MIME.
 - f) Caesar cipher. Give one example.
 - g) What is Message Digest?
 - h) What is the use of Hash functions in key management?
 - i) Name the attributes of Digital Certificate Format X.509.
 - j) What is WSSA (Web Site Security Audit)?