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Total No. of Pages : 02

Total No. of Questions : 09

MCA (2013 and 2014 Batch) (Sem.-5)
NETWORK SECURITY & 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 scientific calculator is allowed.

SECTION-A

1. a) What are various active and passive security attacks?
b) Compare and contrast the man in the middle attack and masquerade.
2. a) How mono-alphabetic ciphers differ from Caesar ciphers? Justify with an example.
b) What are various conventional encryption principles?

SECTION-B

3. a) If $p=11$ and $q=3$, Using RSA algorithm ENCRYPT a message $m=2$.
b) Explain Cross-realm Authentication of Kerberos.
4. a) Discuss the working mechanism of digital signatures.
b) Explain directory Authentication Services.

SECTION-C

5. a) What are various objectives of IP security? Give two examples.
b) What is the role of security payload in IP security? Explain.
6. a) Explain working principle of software firewall.
b) What are various steps to configure software firewall in windows?

SECTION-D

7. a) How PGP enhances the Email-security? Discuss its encryption policy.
b) What is the role of third party certificate in email security? Explain S/MIME. (10, 10)
8. Describe the “bug” in the protocol, stating why some people consider it to be a bug and other people consider it not to be. (20)

SECTION-E

9. Write briefly :

- a) Meet in the middle attack.
- b) Transposition cipher v/s Playfair ciphers.
- c) “S/MIME supports message authentication and integrity”. Comment on the statement.
- d) Discuss the length of key in different phases of DES.
- e) What is criterion for enhancing web security in SSL?
- f) Mono-alphabetic cipher. Give one example.
- g) What is VPN (Virtual Private Network)?
- h) Smurf attack v/s Phishing.
- i) Name the attributes of Digital Certificate Format X.509.
- j) What is Wiretapping?