

Professional Course Examination, November 2018

(5th Semester)

BACHELOR OF COMPUTER APPLICATION

Course No. : BCA5E2

(Computer Network Security)

(Revised)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(Marks : 15)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. A _____ is an extension of an enterprise's private Intranet across a public network such as the Internet across a public network such as the Internet, creating a secure private connection.

- (a) VNP ()
- (b) VPN ()
- (c) VSN ()
- (d) VSPN ()

2. Which of the following is the type of firewall?

- (a) Packet Filtering Firewall ()
- (b) Dual Homed Gateway Firewall ()
- (c) Screen Host Firewall ()
- (d) All of the above ()

3. _____ is to protect data and passwords.

- (a) Encryption ()
- (b) Authentication ()
- (c) Authorization ()
- (d) Non-repudiation ()

4. Which of the following is not external security threats?

- (a) Front-door Threats ()
- (b) Back-door Threats ()
- (c) Underground Threats ()
- (d) Denial of Service (DoS) ()

5. Phishing is a form of

- (a) spamming ()
- (b) identify theft ()
- (c) impersonation ()
- (d) scanning ()

6. Sniffing is used to perform _____ fingerprinting.

- (a) passive stack ()
- (b) active stack ()
- (c) passive banner grabbing ()
- (d) scanned ()

7. What is the most important activity in computer network system hacking?

- (a) Information gathering ()
- (b) Cracking passwords ()
- (c) Escalating privileges ()
- (d) Covering tracks ()

- 8.** How is IP address spoofing detected?
- (a) Installing and configuring an IDS that can read the IP header ()
 - (b) Comparing the TTL values of the actual and spoofed addresses ()
 - (c) Implementing a firewall to the network ()
 - (d) Identify all TCP sessions that are initiated but does not complete successfully ()
- 9.** What is the purpose of a Denial of Service attack?
- (a) Exploit a weakness in the TCP/IP stack ()
 - (b) To execute a Trojan on a system ()
 - (c) To overload a system so it is no longer operational ()
 - (d) To shutdown services by turning them off ()
- 10.** What type of symmetric key algorithm using a streaming cipher to encrypt information?
- (a) DES ()
 - (b) Blowfish ()
 - (c) SHA ()
 - (d) MD5 ()

Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

- 1.** Traditional cipher is symmetric key cryptography. (T / F)
- 2.** Active threats involve attempts by an attacker to obtain information relating to communication. (T / F)
- 3.** A denial of service attack takes place when the availability to a resource is intentionally blocked or degraded by an attacker. (T / F)
- 4.** Software firewall is also sometimes called personal firewall. (T / F)
- 5.** Message authentication do not ensures that the message has been sent by a genuine identity. (T / F)

SECTION—B

(Marks : 10)

Answer the following questions :

2×5=10

1. What is DOS attack?
2. What do you mean by authentication?
3. Distinguish between SSL and TLS.
4. What is cryptography?
5. List out any two wireless security tools.

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. (a) What is IDS? Explain two types of IDS with diagram. 2+8=10

OR

- (b) What is firewall? What are the factors to be considered while selecting a right firewall? 2+8=10

2. (a) Define active attack and passive attack. Mention four methods of attack and their protection on networking. 2+8=10

OR

- (b) Describe with suitable example, the four services and mechanism model for Internetwork Security. 2+8=10

3. (a) What are the two types of cryptographic attack? Mention symmetric cryptosystem and asymmetric cryptosystem. 2+8=10

OR

- (b) (i) Explain symmetric key encryption model with a neat diagram.
(ii) Explain the transpositional cipher with an example. 5+5=10

4. (a) Explain with diagram packet-filter firewalls and proxy firewalls. 5+5=10

OR

(b) What is IP security? Explain the two modes of IP security. 2+8=10

5. (a) Explain RS algorithm and public key encryption. 5+5=10

OR

(b) Explain the following terms : 5+5=10

(i) Man in the middle attacks

(ii) Certification authority

★ ★ ★