

CEGCS-04**Information System**

Certificate of E-Governance and Cyber Security
(CEGCS-16/17)

First Semester, Examination, 2017

Time : 3 Hours

Max. Marks : 80

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Attempt the questions contained in these Sections according to the detailed instructions given therein.

Section-A**(Long Answer Type Questions)**

Note : Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Answer the following :
 - (a) Briefly explain OSI model of Internetworking and function of the various layers.
 - (b) Explain the purpose and type of subnetting.
2. Answer the following :
 - (a) What do we understand by active and passive attacks ? What are the the various techniques used for carrying out these attacks ?

- (b) What are the various causes of IT Infrastructure failure ? What are its remedies ?
- 3. Answer the following :
 - (a) What is a hash function ?
 - (b) What are the differences between non-keyed digest and keyed digest ?
 - (c) What are the two types of cipher that uses symmetric key algorithm for encryption ?
- 4. What is Zone transfer ? How this vulnerability can be misused by a hacker ? What is the remedial action one must take to mitigate this ?

Section-B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (8) marks each. Learners are required to answer any *four* (04) questions only.

- 1. Answer the following :
 - (a) What is Cryptography ?
 - (b) Explain the process of Key management.
- 2. Explain the terms Confidentiality, Integrity, Availability, Authenticity and non-repudiation.
- 3. What are the risks involved in e-mail security ? How are these mitigated ?
- 4. Answer the following :
 - (a) What are the two key criteria of a good hash function ?
 - (b) What type of stream cipher cryptosystem is considered “unbreakable” ?

5. What are the four modes of cryptography operations for DES ?
6. Explain the process of key generation.
7. What do you understand by footprinting and reconnaissance in respect of Penetration testing/Hacking ?
8. Answer the following :
 - (a) What do you understand by Rainbow tables ?
 - (b) What is privilege escalation ?

Section-C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

1. Layered model of networking standard developed by ISO, is known as :
 - (a) TCP/IP
 - (b) CDIR
 - (c) OSI
 - (d) ICMP
2. is used, in order to provide the flexibility of number of hosts, without wasting IP addresses.
 - (a) DNS
 - (b) Subnetting
 - (c) Host ID
 - (d) Network ID

3. is the science of hiding the existence of data.
 - (a) Subnetting
 - (b) IP poisoning
 - (c) Message Digest
 - (d) Steganography
4. are the decoy network accessible resources.
 - (a) XSS
 - (b) Crackers
 - (c) Hackers
 - (d) Honeypots
5. is a function which delivers the key to two parties who wish to exchange data securely.
 - (a) Key distribution
 - (b) Hash function
 - (c) Honeypots
 - (d) Message digest
6. is most widely used to conduct credit card transaction on insecure networks.
 - (a) Secure Electronic transaction
 - (b) DES
 - (c) SSL
 - (d) RSA
7. scan is accomplished by sending no flag/bits inside TCP header.
 - (a) NMAP
 - (b) Null
 - (c) DHCP
 - (d) SNMAP

8. After hacking successfully into a system, a hacker would create in order to maintain access.
 - (a) Backdoor
 - (b) Rainbow table
 - (c) DNS
 - (d) Proxy
9. is the process of ensuring that only an authorized user is using the system ?
 - (a) Authorization
 - (b) Authentication
 - (c) Verification
 - (d) None of the above
10. provides communication security over insecure networks.
 - (a) DSL
 - (b) DSLR
 - (c) SSL
 - (d) VPN

