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BACHELOR OF COMPUTER APPLICATIONS (CYBER SECURITY)
BACHELOR OF SCIENCE (CYBER SECURITY)
EXAMINATION : DECEMBER- 2025/JANUARY-2026
SEMESTER - II
Sub: Cyber Security - I
(BCA-CS-245-20/BCAC23-204/BSCC24-204)

Date : 02/01/2026

Total Marks : 60

Time: 10.00 am to 12.30 pm

Instructions:

1. All questions are compulsory unless and otherwise stated.
 2. Bold figures to the right of every question are the maximum marks for that question.
 3. Candidates are advised to attempt questions in order.
 4. Answers written illegibly are likely to be marked zero.
 5. Use of scientific calculators, Log tables, Mollier Charts is allowed.
 6. Draw neat and labelled diagrams wherever necessary.
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Q.1. Fill in the blanks.

(5)

1. By using _____ network with default subnet mask we can create a network which can hold 256 computers.
a) Class A
b) Class C
c) Class B
d) Class D
2. An action or event that might compromise security is called as _____.
a) Vulnerability
b) Exploit
c) Threat
d) Attack
3. According to TCP/IP Reference Model, _____ layer on top of the transport layer.
a) Network
b) Physical
c) Datalink
d) Transport
4. 25 port number is assigned to _____ protocol.
a) FTP
b) SMTP
c) HTTP
d) TELNET
5. A computer system that implements one or more specific encryption algorithms is called as _____.
a) Cryptography
b) Cryptosystem
c) Cryptanalysis
d) Cryptanalyst

Q.2. State True/False.

(5)

1. A threat is a potential violation of security.
2. By Using TCP Connect(), system call provided by an OS is used to open a connection to every interesting port on the machine.
3. Active Stack Fingerprinting allows an attacker to leave a smaller footprint and have greater chance to succeed.
4. An assault on system security that derives from an intelligent threat is called as Exploits.
5. Black Hat Hackers are individuals professing hacking skills and using them for defensive purposes along with the ethics.

- Q.3. Answer the following. (Solve any 5) (10)**
1. Define the term Virtual Port.
 2. Explain the use of Subnet masking.
 3. What is the use of port scanning?
 4. Define the term smart mutation.
 5. Define the term Vulnerability.
 6. What is the use of Ping command?
 7. Define the term “Black Hat Hackers”.
- Q. 4. Answer the following in detail. (Solve any 6) (30)**
1. Explain TCP/IP Reference Model.
 2. Define the term Non-Technical Attacks. Explain any two types of Non-Technical Attacks.
 3. Write a short note of “Social Engineering”.
 4. Explain the use of TCP’s 3-Way Handshake.
 5. Define “Cryptography”. Explain A-Symmetric key cryptography.
 6. Write a short note on Reverse Engineering.
 7. Write a short note on;
a) DoS attack b) DDoS attack
- Q. 5. Answer the following in detail. (Solve any 1) (10)**
1. Explain any five types of network topologies.
 2. Define the term “Malware”. Explain any 4 types of malwares.
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