IV.

1.	Some sniffers perform DNS lookups in order							
	a) To spread viruses							
b) To detect hackers and spammers operating on a network								
c) To replace IP address in their logs with fully quail								
d) To harvest passwords								
2)								
,	a) Locate sniffers on nearby network segments							
b) De-activate sniffers on a network								
	c) E-direct all sniffing activities on the firewall of a network							
d) To protect a network from virus attacks								
3)	3) The decoy method of detecting sniffers on a network							
	i. Involves setting up a client and server on either side of the network							
	ii. The Server is configured with accounts that do not have rights or privileges							
	iii. Involves configuring firewalls to attack hackers							
	iv. Involves backing up all files on the main server with the network							
	a) <mark>I and II</mark> b) II, III, and IV c) II and III d) I, II, III and IV							
5)	The command can be used to check if a sniffer is being run in a promiscuous mode							
	a) -/ der config – d							
	b) -/ if config – a							
	c) -/ ps aux – a							
	d) -c /-ip config - d							
6)	Motivation for hacking includes							
	I. Desire for recognition or fame							
	II. Desire to spread spam or virus							
	III. Revenge							
	IV. Intent to commit industrial, espionage							
	a) I and II b)I, II, III c)II, III, IV d) I, II, III, IV							
7) An ethical hacker is								
	a) A security professional who applies his or her hacking skills for defensive purposes							
b) One who uses his or her hacking skills for teaching others how to hackc) A hacker who distributes Trojans and worms on the world								
								d) A hacker who hacks only attacks of secure networks
8)	Black hackers are well versed hackers who hacks websites and networks that							
	a) Display valuable information							
	b) Display information with a bad intent							
	c) Hack with good intent							
٥١	d) Hacks sites with insufficient information							
9) Sniffers are not easily detected when in operation and can be implemented from								
	I. Any computer within a network							
	II. At the gateway							
	III. At the routers							

When the link from the network to the internet is by wireless

a) <mark> </mark> b)								
10) Sniffers look only at the traffic passing through the								
a) Network interface adaptor on the machine the application is running on								
b) Network adaptor and the RAM on the machine the sniffer is resident on								
c) Data passing through the buffer unit of the computer								
Hard disk in the machine the sniffer in running on								
11) To spoof a trusted machine relationship, the attacker must								
 Identify the target pair of trusted machines 								
II. Anesthetize the host the attacker intends to impersonate								
III. Forge the address of the host the attacker is pretending to be								
IV. Accurately guess the correct sequence of all TCP/IP transmissions								
a) I and II only b) II, III and IV only c) III and IV <mark>d) I,II, III and IV</mark>								
12) In an IP spoofing attack a tangible loss may occur when								
a) Spam or SYN flooding occur on the network under attack								
b) Valuable data is lost or duplicated								
c) The network is slowed down by the attacker								
d) The reputation of the victim is compromised								
13) Blind spoofing is a kind of spoofing attack when the								
a) Hacker is not aware of all network conditions but uses various means to gain access to the								
<mark>network</mark>								
b) When the victim is not aware that he or she is being hacked								
c) The victim's firewall cannot detect the attacker								
d) Attacker can attack the victim without being detected								
14) Which of the following is an example of a damage caused by Trojan horse attack?								
I. Erasing or overwriting data on the affected computer								
II. Re-installing itself after being disabled								
III. Copying fake links which will lead to false websites or chats and other accounts								
based websites								
IV. Rewriting the URL of the victims address								
a) and b) , and V c) , , and V d) , and								
15) A Trojan horse attack can be cleared by using I. Antivirus software								
II. Booting the computer from a live CD and then using an antivirus afterwards								
III. Resetting jumpers on the hard disk and rebooting the whole computer								
IV. Updating the firewall and testing whether the computer can be attacked								
a) I and II b) II and IV c) II only d) II, III and IV								
16) The best way to clean a computer which has been heavily infested by a virus is to								
a) Reformat the hard disk and reinstall the operating system								
b) Clean the computer with an antivirus								
c) Prevent other users from using the affected files								
d) Delete all unfamiliar files on the hard disk								
17) Various defences against man-in-the middle attacks use authentication techniques based on								
I. Public key and secret key infrastructure								
II. Avoiding the use of wireless as a medium of transmission								

Use of strong passwords

III.

	IV	. Off	channel verification	n				
	a)	I	b)II, III	c) III, IV	d) I, IV			
18)		e	enables closed-from	solution to s	ecurity that works well when only a single well-			
characterized property can be isolated as critical								
	nponents							
	b)	o) Zipping files						
	c) Using a powerful firewall							
	d)	d) Using intelligent switches and routes						
19) are computers that can either intentionally or unintentionally left vuln								
attack by crackers								
a) Secure systems								
	b)	Operat	ing systems					
	c)	Honey	<mark>pots</mark>					
	d)	Proxies						
20)	In a	n active	spoofing attack, th	e hacker can				
		I.	See all the comput	ers that resid	le on the victim's network			
		II.	Hacker can hack a	n unsecured o	document on victims computer			
		III.	Hacker can guess a	all sequence r	numbers of all TCP/IP transmissions			
		IV.	Hacker can see bo	th parties and	d perform exploits such as sniffing data,			
			corrupting data an		ents of a packet			
	a)	I, II	b) II, III	c) I, IV	d) II, III, IV			
21) ARF) (A		esolution Protocol)					
	I		_	_	address and responding with a MAC address of			
			hacker's computer					
	II		leting the address o					
	Ш	•	_		m's with the victims host address			
	IV		oying the password					
	•	١, ١١	b) II, III, IV	c) I only	d) I, IV			
22) In a		•	ng attack, a hacker	•				
			e address of the hos		•			
	II				meant for the victim on to a virtual server			
	Ш	-		nrough a web	site and also acquire a certificate used by a			
			bsite	1				
	, IV		ezes the victims we					
22) .	-	1, 11	b) I, II, III	c) II, III, IV	<mark>d) II, III</mark>			
		•	_		nges its website's IP address to the IP address of			
•	l an		b) I, I and III	c) II, III, IV	d) I, II, III and IV			
24) An	24) An apsend which is a spoofing tool, can perform							
			N flood attack					
	II. UDP flood attack III. Ping attack							
	III. Ping attack IV. Time-to-Live attack							
				c)	d) II III and IV			
25\ Pai	•	I and II	b) I, II and III	c) II, III, IV	<mark>d)I, II, III and IV</mark> inly on			
	25) Baiting as means to execute an attack relies mainly on a) The skill of the attacker							
aj	a) The skill of the attacker							

- b) The intensity of spam or flooding sent by an attacker
- c) Curiosity or the greediness of the attacker
- d) The efficiency of the firewall on the victims network
- 26) In a Quid pro quo attack, the attacker -----
 - a) Helps solve a problem and in the process have the user type a command that gives the attacker access to launch a malware attack
 - b) Just launch a malware attack
 - c) The victim stuns and anesthetize the attackers computer
 - d) The attacker sends a bait by means of a Trojan horse and the launch a man-in-the-middle attack
- 27) In a man-in-the-middle attack the attacker
 - a) attacks computers that are centrally place within a network
 - b) The attacker attacks the hard disk and the network interface card of the victims computer
 - c) The attacker eavesdrops, connect to the victim's computer relays and alters data transmitted between workstations
 - d) Disable all the computers on a network
- 28) ------ is a form of malware that appears to perform a desirable function but in fact performs undisclosed malicious functions that allow unauthorized access to the host's machine
 - a) Eaves dropping
 - b) Flooding
 - c) Spamming
 - d) Trojan horse
- 29) Which of the following is a type of Trojan horse payload
 - I. Remote accessing
 - II. Data destruction and security software disabler
 - III. Downloader
 - IV. Denial-of-service attack
 - a) I and II b)I,II and III c)II, III and IV <mark>d) I, II, III and IV</mark>
- 30) In an Address Resolution Protocol test, the windows driver for the network interface card
 - a) Detects all hackers on the system
 - b) Detects IP addresses of all computers attached to the network
 - c) Examine the contents of the hard disk of the main server for the network
 - d) Examines only the first octet of the MAC address
- 31) A firewall cannot recognize and detect internal attacks because
 - a) Not all firewall are reliable
 - b) Some hackers can by-pass a firewall
 - c) Firewalls can detect internal intrusive attacks if only a proxy server is present in he network
 - d) Firewall sit on the boundaries of networks
- 32) Which of the following commands can be used to detect a recently modified files on a server
 - a) \$find/-ctime-1-print
 - b) \$\$find /-cdetect-1-detect
 - c) \$ find/-cdisallow-1-detect
 - d) \$deny/-ctime-1-intrusion
- 33) In the verification of the application layer protocols method as a means for signature recognition, many types of attackers exploit programming flaws such as

- a) Out-of-band data sent to an established network connection
- b) Relying mainly on global variables in programming
- c) Relying solely on user-defined functions in programming
- d) Having to alter the various data structures at the end of every run of the program
- 34) Which of the following is a limitation on network intrusion detection operation
 - a) Operating the network at a high speed
 - b) Operating the network at a low speed
 - c) Having too many clients on the network
 - d) Installing a firewall and a virus software on the network
- 35) The command ------ is used to grant access to selective user on the web server's configuration file on http://www.myfile.com
 - a) < limit >

```
Order, allow, deny
< / limit > .my firm.com
< /directory>
```

b) < limit >

Order, allow, deny
Allow from all

/ limit > .my.firm.com
/directory>

c) < directory/usr/local/http/docs >

imit>

Order, allow, den

Deny from all

< / limit > .my firm.com

</directory>

d) < limit >

Order, allow, deny

- <p
- </directory>
- 36) Security policy considerations for a website includes
- a. limiting the use of the website by visitor
- b. administering the website from the web host console
- c. installing a spyware at the administrators end
- d. using a very reliable network topology
- 37. the very first thing you must consider on your network is the way it is connected to the internet ans also
 - a. The operating system and the web server in use
 - b. The number of switches used in the network
 - c. The number of routers in the network
 - d. The strength of the proxy server in use and the type of transmission medium

- 38. Which of the following is a windows post-security installation method
 - a. Apply all hotfixes patches and updates as a number one priority and also never use passwords entry blank
 - b. Disable all unused icons on the desktop
 - c. Do not allow full access of the domain server to the clients
 - d. Disable any client who attempts to log-on more than the specified number of log-ons
- 39. A DOS attack can be prevented by
 - a. Filtering out frequently appearing patterns on your computer and also create and implement good security policies
 - b. Sending a destructive java script to the attacker computer
 - c. Rewriting the URL of your computer
 - d. Using software subversion vulnerability
- 40. Software subversion vulnerabilities results from the coding detects such as
 - a. Use of low level languages
 - b. Use of global variables only as the main declaration of the variables
 - c. Use of a buffer overflow
 - d. Use of only local variable
- 41. In a connection hijacking
 - a. An attacker desynchronizes a series of packet between the source and destination computer
 - b. An attacker prevents a victim from connecting to the network
 - c. An attacker destroys a victim's main server
 - d. An attacker forces the victim to shut down its computer
- 42. In RIP (routing information protocol) attacks.
 - a. Attacks on RIP destroys the router of the victim's network
 - b. Attacks on RIP change the destination of the data
 - c. Attacks on RIP disorganizes the sequence number of the packet
 - d. Attacks on RIP deletes the routing table of all the routers on the victims network
- 43. Some of the timer that are important for TCP/IP security are
 - a. Connection establishment, WAIT, KEEP ALIVE, FIN, ACK
 - b. Connection establishment, ACK, KEEP _ALIVE, WAIT, FIN
 - c. Connection establishment, KEEP ALIVE, ACK, WAIT FIN
 - d. Connection establishment, FIN_WAIT, TIME_WAIT and KEEP_ALIVE
- 44. TCP/IP vulnerabilities include
 - a. Attack on the RIP table
 - b. Attack on UDP headers
 - c. TCP SYN attacks and IP spoofing
 - d. Trojan and worms attacks
- 45. IP security provides
 - a. Authentic addresses to victims of man-in-the middle attacks
 - b. Virus free packers to attackers
 - c. Authentication of message integrity
 - d. Prevents attackers from decrypting passwords of victims
- 46. Hackers can modify a routing table by
 - a. Altering Time-to-Live value in the TCP header

- b. Replacing the MAC address of the victim with the hacker's own MAC address
- c. Altering the host part of the IP address of the victim's and provide the hacker's own IP address as the default gateway address
- d. Erase all necessary records from the table and then provide the hacker's own IP address as the default gateway address
- 47. Three ways of stopping a continuous ACK transfer:
 - a. Losing an ACK packet, ending the TCP connection, and resynchronizing the client and the server
 - b. Losing an ACK, exceeding the Time -To-live, dropping packets
 - c. Losing and ACK, changing the MAC address and altering the routing table of the victim
 - d. Losing an ACK, modifying the IP address of the victim and reconfiguring the firewall within a network
- 48. Two methods used to prevent session hijacking are
 - a. Encryption and storm watching
 - b. Firewall and anti-virus
 - c. Prevention of phishing and virus attacks
 - d. Prevention of password harvesting a network
- 49. To prevent a Trojan horse attack
 - a. You should never allow wireless connections on your network
 - b. You should never assign permanent IP address for clients on your network
 - c. Executable file formats should not be open or run unless the source of the file is known
 - d. Temporary files should be deleted from the hard disk.
- 50. ______ are computer that are either intentionally or unintentionally left vulnerable to an attack by crackers
 - a. Secure systems
 - b. Operating systems
 - c. Honey pots
 - d. proxies

812512

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

COLLEGE OF SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

MID-SEMESTER EXAMINATION, MARCH 2016

CSM 494, COMPUTER SECURITY

ANSWER ALL QUESTIONS

Time Allowed: 20mins.

SECTION A

- - c. There will be a special defense against eavesdroppingd. The position and the momentum of the electron cannot be measured accurately at the same time.
- 2. Netstat helps to locate
 - I. Port of the host to which a device is connected
 - II. Internet Protocol addresses of the host connected to the computer
 - III. IP addresses of computers
 - IV. A target using static routing, thus saving valuable bandwidth
 - (a.) I, II, III and IV
 - b. I and III only
 - c. Il only
 - d. I, II, and lii only
- 3. Sniffers look only at the traffic passing through the
 - a. Network interface adapter on the machine the application is running on
 - b. Network adapter and the RAM on the machine the sniffer is resident on
 - c. Data passing through the buffer unit of the computer
 - d. Hard disk in the machine the sniffer in running on
- 4. The command ----- can be used to check if a sniffer is being run in a promiscu mode
 - a. der config d

- b. if config a
- c. paux-a
- d. -c -ipconfig d

5. An ethical hacker is

- A security professional who applies his or her hacking skills for defensive
- b. One who uses his or her hacking skills for teaching others how to hack
- c. A hacker who distributes Trojans and worms on the world
- d. A hacker who hacks only attacks of secure networks
- is the process of identifying domain names and other resources on the domain network.
 - a. Reverse Social Engineering
 - b. Baselining
 - c. Reconnaissance
 - d. Network Enumeration

7. An ethical hacker is

- (a.) A security professional who applies his or her hacking skills for defensive purposes
- b. One who uses his or her hacking skills for teaching others how to hack
- c. A hacker who distributes Trojans and worms on the world
- d. A hacker who hacks only attacks of secure networks

8. In a man-in-the-middle attack the attacker

- a. attacks computers that are centrally place within a network
- b. The attacker attacks the hard disk and the network interface card of the vic computer
- (c.) The attacker eavesdrops, connect to the victim's computer relays and alte data transmitted between workstations

- d. Disable all the computers on a network g. In a connection hijacking
- In a connection injacking

 An attacker desynchronizes a series of packet between the source and destination computer b. An attacker prevents a victim from connecting to the network
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 - b. Connection establishment, ACK, KEEP _ALIVE, WAIT, FIN
 - c. Connection establishment, KEEP_ALIVE, ACK, WAIT FIN
 - d. Connection establishment, FIN_WAIT, TIME_WAIT and KEEP_ALIVE
- 12. Three ways of stopping a continuous ACK transfer:
 - a. Losing an ACK packet, ending the TCP connection, and resynchronizing the client and the server
 - b. Losing an ACK, exceeding the Time -To-live, dropping packets
 - c. Losing and ACK, changing the MAC address and altering the routing table of the victim
- d. Losing an ACK, modifying the IP address of the victim and reconfiguring the firewall within a network

	Ill attacks use authentication techniques
13. Various defenses against man-in-the mide based on	die attacks use authoritie
Public key and secret key infr. Avoiding the use of wireless a III. Use of strong passwords IV. Off channel verification	astructure as a medium of transmission
a. 1 b) 11, 111 c) 111, 111	d) I, IV
is a method of scram	bling text into a way that is understood by only
target recipients and hides it from other	·s.
a. Steganography	
b. Cryptanalysis	
c. Transposition	
d. Cryptography	
	hecking if you are running a sniffer on your
aps aux b. Ipconfig a c. Ipconfig -ss d. Ping aux	
	SECTION B
16. Port Scanner examines and reports	the conditions of a port.
16. Port Scanner examines and reports 17. nmcp - 0 - 1p-adds the command for de	etermining the operating system of a target.
18. is the best known and	I most powerful free protocol analyzer.
19 refers to the code use	ed to unscramble a cipher text into plain text
20. All TCP Sessions are tracked with	S N built into the TCP Protocol.

TE NKRUMA UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI FACULTY OF PHYSICAL SCIENCE

MID SEMESTER EXAMINATION SEMESTER 2, MARCH 2013

CSM 494 COMPUTER SECURITY

BSc. COMPUTER SCIENCE IV

Time: 25minutes

1. Hacker motivations includes

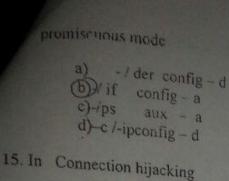
- i) Desire for recognition or fame, Revenge
- ii) Financial gain
- iii) Patriotism or politics
- iv) Curiosity, Love of puzzles
- a) I,II ONLY
- b) IJIJII ONLY
- c) II, III, IV. ONLY
- (d) I,II,III,IV

2. The main functions of Scanners includes

- Connects to a target host(s)
- II) Examines the target host for the services running on it
- III) Examines each service for any known vulnerability
- IV) Infest a victim with a virus
- V
- a) I,II only
- b) I,II,III,IV
- c) I,III only
- d) I,II,III only
- a) O nmap 192.168.100-110
 - b) -O 192.168.0.100-110 nmap
 - @ nmap -O 192.168.0.100-110
 - d) -O 192.168.0.100-110 nmap

4. Illogitimate users take advantage of TGP/IP vulnerabilities by exploiting the "three-way handshake" which of the following methods best describe the action of attackers. (b) Unauthorized users may launch a denial-of-service attack on the destination computer c) Unauthorized users may launch an attack on the switches using port 22 or 23 d) Unauthorized users may launch an nmap attack When a connection is 5. Source and destination computers exchange the Made between them. (a) initial sequence number (ISN) b) IP addresses c) Protocol stack d) MAC addresses 6. In a Connection Release process 1) Source computer sends a FIN packet to the destination computer II) Destination computer then sends a FIN/ACK packet III) Source computer sends an ACK packet IV) Either computer could send an RST and close the session (reset) immediately a) I,II only b) I,II,III only c) LH, III, IV d) None of the above - 8. Methods to decrease vulnerabilities in TCP/IP include Modity default timer values n Increase the number of simultaneous connections that a computer can handle II) Install an antivirus on the system III) Modify the sequence numbers of the packets a) I,II,III only b) II.III.IV c) III.IV only d) B.II only Internet Protocol (IP) is connectionless, therefore a) No guarantee of delivery of packets to the destination

b) Packets has no IP addresses c) Packets are completely dropped d) The Time-to-live for the packets are normally set to zero 10. The Transmission Control Protocol (TCP) 1) Provides connection-oriented services between a source and destination II) Guarantees delivery of packets III) Packets reach the application layer in the right order (V) identifies and assembles packets based on sequence numbers a) I,II only b) I,III only (a) I,II,III,IV d) II,III,IV only 11. Zone transfer is a DNS feature that lets a DNS server update its database a. With the list of domain names in another DNS server b. With correct IP address c. With the router used in the transmission d. To avoid hackers 12. An incorrectly configured DNS server may allow any Internet user to perform a zone transfer and the Commands to perform a DNS zone transfer is a. \$- dsniff × b. S - tcpdump c. nslookup d. \$-t nslookup 13. A sniffer puts a network card into the promiscuous mode by using a programmatic interface 1) and Interface can bypass the TCP/IP stack operating systems II) By using a MAC address 111) By using attacking the routers in the transmission path IV) d)I,III,III,IV b) LIV (c) LIL a) I.II.III. 14. The command - ---- can be used to check if a sniffer is being run in a



I) An attacker copies the MAC address of the victim's computer

II) Deletes the MAC address of the victim's computer III) An attacker desynchronizes a series of packets between the source and destination

IV) Extra packets sent to one of the victims force the victim to choose which packet to

(a) I,II only

b) II, III, IV only

(c) III,IV

d) 1,11,111,1V

16. IP Security architecture provides--

I) Encryption of user data for privacy

II) Authentication of the integrity of a message

III) Protection against replay attacks

IV) Authentication for the attacker's machine

a) I,II only

b) ILII, III only

c)1,11,111,IV

d)II,III.IV only

17. Some sniffers perform DNS lookups in order

a) to spread viruses

b) to detect hackers and spammers operating on a network

(c) to replace IP address in their logs with fully qualified host name

d) to harvest passwords

18. In an address Resolution Protocol test on a network, the Windows driver for the

network card

a) detects all hackers on the network

b) detects the IP addresses of all computers linked to the network

c) Examines the contents of the hard disk of the main server for the netwo

d) Examines only the first octet of the MAC address to determine whether broadcast packet

19. The Source Route method is used to

a. locate sniffers on nearby network segments

b. de-activate sniffers on a network

c. re-direct all sniffing activities on the firewall of a network

d. to protect a network from virus attacks

20. The decoy method of detecting sniffers on a network, i. involves setting up a client and server on either side of the net

Section B Answer only one question

- 1a). Explain what is meant by man-in-the-middle attack and describe how it can be prevented
- 1b) Trojan horse payloads are almost always designed to cause harm but can also be harmless. List six types of types of Trojan horse payloads and state ten damages caused by them.
- 1c). differentiate between a computer virus and a computer worm and give three methods on how to protect against each of them.
- 1d). Describe the infection strategy of a computer virus and differentiate between a resident virus and non resident virus.
- 2a). Enumerate the steps involved in launching the denial-of-service (DOS) attacked.
- 2b). List five ways in which DoS can be perpetrated and how to service a DoS attack
- 2c)
 - a) Password crackers normally come in two flavours. Name and explain each of them
 - b) Give two ways each on how each of the two flavours in (a) can be defended against.
- 3a) Explain what is meant by email spoofing attack and state how a network can be prevented from such attack
- 3b) Explain how a network can be prevented from email spoofing attack
- 3c) In a commercial environment, the majority of software vulnerabilities results from a few known kinds of coding defects. Enumerate four of these defects.
- 3d). Give three ways that can be used to stop ACK transfer based on the hackers point of view.