

Enrollment No.....



Programme: B.Tech.

Branch/Specialisation: CSE All

Faculty of Engineering  
End Sem Examination Dec 2024  
CS3EO08 Network Security

**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

		Marks	BL	PO	CO	PSO
Q.1	i. The process of converting plain text to cipher text is called-	<b>1</b>	01	01	01	01
	(a) Decryption      (b) Translation					
	(c) Conversion      (d) Encryption					
	ii. AES uses a _____ bit block size and a key size of _____ bits.	<b>1</b>	01	01	01	01
	(a) 128; 128 or 256					
	(b) 64; 128 or 192					
	(c) 256; 128,192 or 256					
	(d) 128; 128,192 or 256					
	iii. Symmetric Encryption is also known as:	<b>1</b>	01	01	0	01
	(a) Public key encryption					
	(b) Asymmetric Encryption					
	(c) Hybrid Encryption					
	(d) Conventional Encryption					
	iv. Pretty Good Privacy (PGP) is used in_____.	<b>1</b>	02	01	02	02
	(a) Wi-Fi security      (b) Browser Security					
	(c) FTP Security      (d) Email Security					
	v. Knowing the password of a user for hacking is called-	<b>1</b>	01	02	02	02
	(a) Sneaking      (b) Cyber-stalking					
	(c) Spamming      (d) Spoofing					
	vi. A digital signature needs a/an _____ system.	<b>1</b>	02	02	02	02
	(a) Symmetric key      (b) Asymmetric key					
	(c) Both (a) and (b)      (d) None of these					

[2]

[3]

- vii. Dynamic packet filter firewall are fourth generation firewalls that work at-  
 (a) Application layer (b) TCP  
 (c) UDP (d) TCP, UDP
- viii. IPsec is designed to provide security at the \_\_\_\_\_.  
 (a) Transport layer  
 (b) Application layer  
 (c) Session layer  
 (d) Network layer
- ix. In computing \_\_\_\_\_ is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules.  
 (a) Spyware (b) Cookie  
 (c) Spam (d) Firewall
- x. Key loggers are a form of \_\_\_\_\_?  
 (a) Social Engineering (b) Trojan  
 (c) Shoulder surfing (d) Spyware

- Q.2 i. What do you understand by Security attacks? **2** 03 06 03 03  
 ii. Briefly explain the concept of secret key cryptography? **3** 04 06 0 01  
 iii. Explain the concept of Block Cipher with design diagram? **5** 04 06 05 04

- OR iv. Elaborate the concept of S-DES algorithm? **5** 04 06 01 04

- Q.3 i. What do you mean by symmetric key cryptography? **2** 04 06 02 03  
 ii. Explain the concept of asymmetric cryptography with special reference to RSA algorithm? **8** 04 06 02 04

- OR iii. What is the concept of elliptic curve cryptography? Explain by giving an example.? **8** 04 06 02 04

- Q.4 i. What is Message Authentication Code (M.A.C)? **3** 04 06 03 04  
 ii. Why MD5 is faster than the SHA-1? Write down the difference between MD5 and SHA-1. **7** 04 08 03 034

- OR iii. What is Kerberos system? How does it work? Why it is important for authentication? **7** 04 04 02 04

- Q.5 i. What is IP security policy? **4** 04 06 04 04  
 ii. Write short notes on-  
 (a) Web security  
 (b) Internet key exchange
- OR iii. Write a short note on-  
 (a) Electronic mail security  
 (b) HTTPS standard
- Q.6 Attempt any two:  
 i. Explain the term virus, worms, backdoors, keyloggers and phishing. **5** 04 02 03 03  
 ii. What is distributed denial of service attack? **5** 04 04 05 02  
 What is intrusion detection system?  
 iii. What is the concept of firewall? Why firewall is important? How will you configure it? **5** 04 05 04 04

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**Marking Scheme**  
**CS3EO08 Network Security**

Q.1	i. The process of converting plain text to cipher text is called- (d) Encryption	1		OR	iii. What is the concept of elliptic curve cryptography Explain by giving an example	4 marks 4 marks	8
	ii. AES uses a _____ bit block size and a key size of _____ bits. (d) 128; 128,192 or 256			Q.4	i. What is Message Authentication Code (M.A.C)? ii. Why MD5 is faster than the SHA-1? Difference between MD5 and SHA-1.	2 marks 5 marks	3 7
	iii. Symmetric Encryption is also known as: (d) Conventional Encryption			OR	iii. What is Kerberos system How does it work Why it is important for authentication	2 marks 3 marks 2 marks	7
	iv. Pretty Good Privacy (PGP) is used in _____. (d) Email Security			Q.5	i. What is IP security policy? ii. Write short notes on- (a) Web security (b) Internet key exchange	4 marks 6	
	v. Knowing the password of a user for hacking is called- (d) Spoofing			OR	iii. Write a short note on- (a) Electronic mail security (b) HTTPS standard	3 marks 3 marks	6
	vi. A digital signature needs a/an _____ system. (b) Asymmetric key			Q.6	Attempt any two: i. Explain the term virus, worms, backdoors, keyloggers and phishing. 1 mark for each	5	
	vii. Dynamic packet filter firewalls are fourth generation firewalls that work at- (d) TCP, UDP				ii. What is distributed denial of service attack? What is intrusion detection system?	2.5 marks 2.5 marks	5
	viii. IPsec is designed to provide security at the _____. (d) Network layer				iii. What is the concept of firewall Why firewall is important How will you configure it	2 marks 1 mark 2 marks	5
	ix. In computing _____ is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules. (d) Firewall						
	x. Key loggers are a form of _____. (d) Spyware						
Q.2	i. What do you understand by Security attacks?	2			*****		
	ii. Briefly explain the concept of secret key cryptography?						
	iii. Explain the concept of Block Cipher with design diagram? 2 marks						
	iv. Elaborate the concept of S-DES algorithm? Design + Algo steps 3 marks						
Q.3	i. Symmetric key cryptography?	2					
	ii. Explain the concept of asymmetric cryptography Special reference to RSA algorithm?						
	4 marks 4 marks						