

# Model Question Paper-1/2 with effect from 2021(CBCS Scheme)

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## 7<sup>th</sup> Semester B.E. Degree Examination Subject Network Security

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			BTL	COs	Marks
Q.01	a	Explain the basic concepts of security requirement.	L2	CO1	05
	b	Explain the various security models	L2	CO1	05
	c	Explain the creation and usage of cookies	L2	CO1	10
OR					
Q.02	a	Explain the network security model with a neat diagram	L2	CO1	10
	b	Explain the java security model and built-in java application security	L2	CO1	10
Module-2					
Q. 03	a	Explain the SSL connection and session state parameters	L2	CO2	10
	b	Explain all the steps followed by SSH user authentication protocol in detail.	L2	CO2	10
OR					
Q.04	a	Explain additional alert codes of TLS	L2	CO2	10
	b	Explain the SSH Transport Layer protocol packet exchanges with a neat diagram	L2	CO2	10
Module-3					
Q. 05	a	Explain the application of IP Security scenario.	L2	CO3	05
	b	Explain IP traffic processing of outbound and inbound packets with the relevant diagrams	L2	CO3	10
	c	Explain Anti-replay service of IP Security	L2	CO3	05
OR					
Q. 06	a	Explain transport mode and tunnel mode operation of ESP in IP Security	L2	CO3	10
	b	Explain IKE formats with neat diagram	L2	CO3	10
Module-4					
Q. 07	a	Explain intrusion detection using audit records.	L2	CO4	10
	b	Explain the steps involved in digital immune system with a neat diagram.	L2	CO4	10
OR					
Q. 08	a	Explain UNIX password scheme with the relevant diagrams	L2	CO4	10
	b	Explain different phases of virus and their classification based on concealment strategy	L2	CO4	10
Module-5					
Q. 09	a	Explain the capabilities and limitations of firewalls	L2	CO5	10
	b	Explain the DMZ networks functionality while using internal and external firewall with a neat diagram.	L2	CO5	10
OR					
Q. 10	a	Explain the functionality of stateful inspection firewall with example	L2	CO5	10
	b	Explain the working of application level and circuit level gateway firewalls	L2	CO5	10

\*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.

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Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			BTL	COs	Marks
Q.01	a	Explain the various modern nature of attacks.	L2	CO1	05
	b	Explain the various types of Criminal attacks	L2	CO1	05
	c	Explain the following specific attacks with an example for each: i. Phishing                      ii. Phorming	L2	CO1	10
OR					
Q.02	a	Explain the various authentication methods supported by EAP methods	L2	CO1	10
	b	Explain the various principles of security with an example for each	L2	CO1	10
Module-2					
Q. 03	a	Explain SSL Record Protocol and its format with the corresponding diagrams	L2	CO2	08
	b	Explain how connection initiates and closes in HTTPS	L2	CO2	06
	c	Explain the Pseudo Random Function used in TLS with a neat diagram	L2	CO2	06
OR					
Q.04	a	Explain SSL handshake protocol with a neat diagram	L2	CO2	12
	b	Explain Local and Remote port forwarding in SSH connection protocol	L2	CO2	08
Module-3					
Q. 05	a	Explain IKEv2 exchanges with a neat diagram	L2	CO3	10
	b	Explain different categories of IP Security Documents in detail	L2	CO3	5
	c	Explain the selectors used to determine an security policy database	L2	CO3	5
OR					
Q. 06	a	Explain the parameters of security association and security association database	L2	CO3	10
	b	Explain ESP packet format with the relevant diagrams	L2	CO3	10
Module-4					
Q. 07	a	Explain various intrusion techniques with an example for each	L2	CO4	8
	b	Explain the general virus structure and the logic for compression virus	L2	CO4	12
OR					
Q. 08	a	Explain Distributed intrusion detection with relevant diagrams	L2	CO4	10
	b	Explain the different generations of anti-virus	L2	CO4	10
Module-5					
Q. 09	a	Explain the design goals for a firewall and the general techniques used by it to control access	L2	CO5	10
	b	Explain Bastion-host firewall biasing	L2	CO5	10
OR					
Q. 10	a	Explain Packet filtering firewall with example	L2	CO5	10
	b	Explain the working of distributed firewall with a neat diagram	L2	CO5	10

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## 7<sup>th</sup> Semester B.E. Degree Examination Subject Title – Network Security

TIME: 03 Hours

Max. Marks: 100

- Note: 01. 02. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.  
03.  
04.

Module -1			*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Define security principle. Describe the four principles of security in detail, each with an example.	L1	CO1	10
	b	Interpret the active attacks and passive attacks in detail.	L2	CO1	10
OR					
Q.02	a	List and explain the working of Anti-virus software and its generations.	L1	CO1	10
	b	Illustrate with a block diagram, the model for Network Security and explain the Network Access Security model.	L2	CO1	10
Module-2					
Q. 03	a	Draw the secure socket layer protocol stack and describe the working in details.	L1	CO2	10
	b	What is the importance of HTTPS? Explain the connection initiation and closure of HTTP in detail.	L1	CO2	06
	c	Interpret the calculation of HMAC in TLS	L2	CO2	04
OR					
Q.04	a	Describe the overall operation of record protocol in SSL. Define the various parameters associated with session state and connection state of SSL Protocol.	L1	CO2	10
	b	What is port forwarding and explain the types of port forwarding .	L1	CO2	06
	c	Illustrate the tasks performed by SSH connection protocol	L2	CO2	04
Module-3					
Q. 05	a	List and explain about the IPSec documents.	L1	CO3	05
	b	What are the benefits of IP Security.	L1	CO3	05
	c	Outline the working of Transport and Tunnel modes.(encryption)	L2	CO3	10
OR					
Q. 06	a	Write the applications of IPSec.	L1	CO3	05
	b	Describe with neat diagram, illustrate the IP Security scenario.	L1	CO3	05
	c	Explain the Internet Key Exchange using Diffie-Hellman algorithm with an example.	L2	CO3	10
Module-4					
Q. 07	a	Discuss the parts and phases of computer virus.	L2	CO4	08
	b	Define the three classes of Intruders. Give examples of Intrusion. Describe the Intruder behavior patterns with examples.	L1	CO4	12
OR					

Q. 08	a	What is audit record? Explain its types and different fields in the audit record.	L2	CO4	08
	b	Write with a neat diagram, explain (i) Distributed Intrusion detection (ii) Statistical Anomaly Detection (iii) Rule-Based Intrusion Detection	L1	CO4	12
<b>Module-5</b>					
Q. 09	a	Discuss the firewall configuration with neat diagram and example.	L2	CO5	10
	b	Explain the four general techniques that the firewall use to control access.	L2	CO5	05
	c	With example , explain firewall configuration in DMZ Network	L3	CO5	05
OR					
Q. 10	a	With a neat diagram, describe the working of packet filtering firewall.	L2	CO5	10
	b	Discuss the need for firewall and the techniques used.	L2	CO5	05
	c	Classify are the firewall attacks and counter measures?	L3	CO5	05

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