

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov / Dec 2024 Jan / Feb 2025	
(B. Tech / M. Tech.) Program: Information Technology Scheme I/II/IIB/III: IIB	
Supplementary Regular Examination: TY Semester: V	
Course Code: ITC502 and Course Name: Computer Network Security	
Date of Exam: 01-02-25	Duration: 02.5 Hours
Max. Marks: 60	

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any two questions out of three: (05 marks each)	10		
a)	Discuss various Security Mechanisms		CO1	U
b)	Explain D-H key exchange algorithm		CO2	U
c)	Discuss various types of Trojan		CO3	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Discuss VPN with various types		CO4	U
b)	Discuss the Principal Elements of NAC		CO5	U
c)	Discuss Characteristics of Firewalls		CO6	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	i) Discuss steps involved in affine cipher. ii) Demonstrate affine cipher to encrypt and decrypt the message "Knowledge " using key pair (7,2)		CO1	Ap
b)	Illustrate and analyze the DES Algorithm block diagram and explain the process of a single round in the DES Algorithm.		CO2	Ap
c)	Discuss the concept of phishing and describe five common types of phishing attacks.		CO3	U
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	What is the primary purpose of the TLS protocol, and how does it ensure secure communication over networks, especially for internet communications and online transactions?		CO4	U
b)	Discuss the systematic steps involved in implementing Network Access Control (NAC) solutions to ensure secure and compliant access to network resources.		CO5	U
c)	i) Compare Network Intrusion Detection System and Host Intrusion Detection System ii) Compare application proxy firewall and circuit gateway firewall		CO6	An
