

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

<b>Nov – Dec 2024</b>		
(B. Tech / M. Tech.) Program: Information Technology__Scheme I/II/IIB/III: IIB_		
Regular Examination: TY Semester: V		
Course Code: ITC502 and Course Name: Computer Network Security		
Date of Exam: <b>25-11-24</b>	Duration: 02.5 Hours	Max. Marks: 60

<b>Instructions:</b> (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 <b>two</b> questions out of three: (05 marks each)	10		
a)	Discuss the Security attacks		CO1	U
b)	Describe with suitable diagram the process of issuing digital certificate		CO2	U
c)	Discuss Credential theft. Which malwares are used for credential theft?		CO3	U
Q 2	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Discuss various protocols in the SSL protocol stack		CO4	U
b)	Discuss SNMP version3 security levels		CO5	U
c)	Discuss various types of Firewalls		CO6	U
Q.3	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	i) Demonstrate Autokey cipher with suitable example ii) Demonstrate Vigenere cipher with suitable example		CO1	Ap
b)	Illustrate detailed analysis of the AES algorithm, emphasizing the steps involved in each round of the encryption process.		CO2	Ap
c)	Discuss various phases of : i) WORM ii) VIRUS		CO3	U
Q.4	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	How does IPSec provide authentication and confidentiality, and what roles do the AH and ESP protocols play in achieving these objectives?		CO4	U
b)	Describe the systematic steps involved in implementing Network Access Control solutions to ensure secure and compliant access to network resources.		CO5	U
c)	i) Compare Signature-based Method of IDS and Anomaly-based Method of IDS ii) Compare packet filtering firewall and statefull inspection firewall		CO6	An

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