

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

<i>July/Aug</i> <del>May-June 2024-25</del> (B. Tech) Program: Computer Engineering Scheme: IIB <del>Supplementary</del> Regular Examination: TY Semester: VI Course Code: CEC602 And Course Name: Cryptography And System Security Date of Exam: <u>31/7/25</u> Duration: 02.5 Hours Max. Marks: 60			
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Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.
- (4) Scientific Calculator is not allowed.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Explain Security Goals and Attacks with examples. How do security services help to counter these attacks?		CO1	U
b)	Describe the Authentication method with an example..		CO4	U
c)	Apply rail fence technique for THERAJDHANIEXPRESS with n=3		CO1	Ap
Q 2	Solve any <b>two</b> questions out of three: (05 marks each)	10		
a)	Differentiate between Host and Network Based IDS?		CO4	U
b)	Explain the HMAC using a neat and well-organized diagram.		CO4	U
c)	Explain classification of firewalls with suitable diagrams.		CO5	U
Q.3	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	Apply Playfair Cipher algorithm on Plain text: Somaiya and Key: MONEY to find cipher text.		CO1	Ap
b)	Describe DES algorithm with the help of a neat diagram. Discuss the significance of Initial and Final Permutation.		CO2	U
c)	Explain SYN Flooding Attack? How does it cause a Buffer Overflow Attack?		CO6	U
Q.4	Solve any <b>two</b> questions out of three. (10 marks each)	20		
a)	Explain RSA Key Generation, Encryption, and Decryption with a suitable numerical example.		CO2	U
b)	Describe the challenge base response Authentication mechanisms with suitable diagram.		CO4	U

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c)	What is DOS? Give an example of DOS? How can one protect against DOS? What is DDOS? Give an example of DDOS? How can one protect against DDOS?	CO5	U
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