

Roll Number: _____

Thapar Institute of Engineering and Technology (TIET), Patiala
Department of Electronics and Computer Engineering

B.E. (EEC) (2022-23) MST	Course Code: ULC664 Course Name: Cyber and Network Security
March 11, 2023	Saturday, 03:30 PM - 05:30 PM
Time: 2 Hrs, Max. Marks: 40 Weightage (25)	Name of Faculty: Dr. Nitish Andola

Note: All questions are compulsory. All parts of a question should be attempted in one place.

Q. 1	Explain the following terms with the help of an example. a). Confidentiality b). Integrity c). Authentication d). Digital Signature e). Replay Attack	[5 x 1]
Q. 2	a). What is the difference between a substitution cipher and a transposition cipher technique. b). Discuss the advantages and disadvantages of symmetric and asymmetric cryptography respectively. c). Explain any three substitution cipher techniques with the help of an example.	[1] [2] [3]
Q. 3	a). What is the position of SSL with respect to OSI model. b). Explain the SSL components in detail.	[1] [5]
Q.4	a). With the help of a neat and labelled diagram, explain the transport and tunnel mode of IPSec Protocol. b). What are the applications of IPSec.	[5] [2]
Q.5	a). Explain the DNS resolving methods with the help of a neat and labelled diagram. b). Explain any two properties of HTTP.	[4] [2]
Q.6	Alice wants to send an email to Bob. Alice wishes to achieve only authentication and integrity during the e-mail transfer. Provide a neat and labelled diagram explaining the secure transfer of the e-mail from Alice to Bob with the above properties.	[5]
Q.7	Explain the process of connection management in TCP.	[5]