

SHRI LAL BAHADUR SHASTRI DEGREE COLLEGE, GONDA

Certificate Course

Department of BCA

COMPUTER NETWORK SECURITY

Course Outcomes

- Provide students with a high-level understanding of how information security functions in an organization.
- To master understanding external and internal threats to an organization,
- To be familiar with information security awareness and a clear understanding of its importance,
- To be familiar with how threats to an organization are discovered, analyzed, and dealt with,
- To master fundamentals of secret and public cryptography,
- To master protocols for security services,
- To be familiar with network security threats and countermeasures,
- To be exposed to original research in network security,
- To be exposed to the importance of integrating people, processes and technology

Course Layout

Module 1 Introduction: Attack, Services and Mechanism,

Module 2 Model for Internetwork Security.

Module 3 Cryptography: Notion of Plain Text, Encryption, Key, Cipher Text, Decryption and cryptanalysis; Public Key Encryption, digital Signatures and Authentication.

Module 4 Network Security: Authentication Application: Kerberos, X.509, Directory Authentication Service, Pretty Good Privacy, S/Mime.

Module 5 IP security Architecture: Overview, Authentication header, Encapsulating Security Pay Load combining Security Associations, Key Management.

Module 6 Web Security: Requirement, Secure Sockets Layer, Transport Layer Security, and Secure Electronic Transactions.

Module 7 Network Management Security: Overview of SNMP Architecture-SMMPV11 Communication Facility, SNMPV3.

Module 8 System Security: Intruders, Viruses and Related Threats, Firewall Design Principles. Comprehensive examples using available software platforms/case tools, Configuration Management.

Reference Books:

1. W. Stallings, Networks Security Essentials: Application & Standards, Pearson Education, 2000.
2. W.Stallings, Cryptography and Network Security, Principles and Practice, Pearson Education, 2000.