Lesson Plan

Program: BCA　　　**Semester:** VI　　　**Course Code**: BCA-601　**Course Name:** Computer Network Security

Course Objectives

CO 1.　Understand various security attacks and their protection mechanism and able to apply and analyze various encryption algorithms.

CO 2.　Understand various authentication applications.

CO 3.　Understand IP Security and Key Management

CO 4.　Understand web security and Secure Electronic Transactions (SET)

CO 5.　Understand Network Management (SNMP Architecture)

CO 6.　Understand System Security

Session Duration: 60 minutes

Participants:　BCA Sixth Semester Students

Entry level knowledge and skills of students

　　i.　Computer Network

　　ii.　……

Equipment required in Classroom/ Laboratory/ Workshop

　　i.　Projector

　　ii.　White Board & Marker

Assessment Schemes

S. No.	Criteria	Marks (100)
1	CCSU End Term Examination	75
2	Internal Evaluation Scheme	25
2(a)	Teacher Assessment (Continuous Evaluation) (Assignment & attendance)	25
2(a)(i)	Assignment -1	10
2(a)(ii)	Assignment -2	10
2(a)(iii)	Attendance (compulsory)	5

Course Outcomes

(CO1): Able to understand different security attacks and how they are defended against and able to apply and analyze various encryption algorithms.　　*Understanding (K2), Applying (K3), Analyze (K4)*

(CO2): Able to know about various authentication applications.　　*Understanding (K2)*

(CO3): Able to understand IP Security and Key Management.　　*Understanding (K2)*

(CO4): Able to understand web security and Secure Electronic Transactions (SET)`　　*Understanding (K2)*

(CO5): Able to understand SNMP Architecture　　*Understanding (K2)*

(CO6): Able to understand the system security from Intruders, Viruses and Threats　　*Understanding (K2)*

L. No.	Topics	Sub Topics	Date of implementation	Pedagogy	CO-Covered	Faculty Sign	HoD's Remark with Date
Unit - 1							
1.	Discussion about the Subject Syllabus and Learning outcomes	Course Objective & Course Outcome			**CO-1 TO CO-6**		
2.	**Introduction**	Attack, Services and Mechanism		• Lecture	**CO-1**		
3.		Computer Network and Internet Security		• Lecture • Brainstorming	**CO-1**		
4.		Security Service (X.800)		• Lecture • Buzz Grouping	**CO-1**		
5.		Network Security Model		• Lecture • Brainstorming	**CO-1**		
6.	**Cryptography**	Notion of Plain Text, Encryption, Key, Cipher Text, Decryption		• Lecture	**CO-1**		
7.		Cryptanalysis; Public Key Encryption, digital Signatures and Authentication		• Lecture	**CO-1**		
8.		RSA Algorithm		• Lecture • Brainstorming	**CO-1**		
9.		Discussed University Ques		• Lecture • Brainstorming	**CO-1**		
Unit - 2							
10.	**Network Security**	Authentication Application -Kerberos		• Discussion • Brainstorming • Buzz Grouping	**CO-2**		
11.		Authentication Application -Kerberos cont		• Brainstorming • Buzz Grouping	**CO-2**		
12.		Authentication Application -X.509		• Lecture	**CO-2**		
13.		Authentication Application -X.509 cont		• Lecture • Brainstorming	**CO-2**		
14.		Directory Authentication Service,		• Lecture	**CO-2**		

15.		Pretty Good Privacy		•Lecture •Brainstorming	**CO-2**		
16.		Pretty Good Privacy cont		•Lecture •Buzz Grouping	**CO-2**		
17.		Pretty Good Privacy cont		•Lecture •Brainstorming •Buzz Grouping	**CO-2**		
18.		S/MIME		•Lecture •Buzz Grouping Brainstorming	**CO-2**		
19.		S/MIME cont		•Lecture	**CO-2**		
20.		S/MIME cont		•Lecture	**CO-2**		
21.		Revision of Unit- II		•Brainstorming Buzz Grouping	**CO-2**		
22.		Discussed University Ques		•Brainstorming •Buzz Grouping			
			Unit - 3				
23.	**IP security Architecture**	Overview		•Lecture •Brainstorming	**CO-3**		
24.		Authentication header		•Lecture •Brainstorming	**CO-3**		
25.		Encapsulating Security Pay Load		•Lecture •Brainstorming	**CO-3**		
26.		Revision		•Brainstorming	**CO-3**		
27.		Security Associations		•Lecture •Brainstorming	**CO-3**		
28.		Key Management		•Lecture •Brainstorming	**CO-3**		
29.		Revision of Unit- 3		•Brainstorming •Buzz Grouping	**CO-3**		
30.		Discussed University Ques		•Brainstorming •Buzz Grouping	**CO-3**		
			Unit – 4				
31.	**Web Security**	Introduction and Requirement of web security		•Lecture •Brainstorming •Buzz Grouping	**CO-4**		
32.		Secure Socket Layer		•Lecture •Brainstorming	**CO-4**		
33.		Transport Layer Security Secure Electronic Transactions (SET)		•Lecture •Brainstorming	**CO-4**		
34.		Revision of Unit- 4		•Brainstorming •Buzz Grouping	**CO-4**		
35.		Discussed University Ques		•Buzz Grouping •Brainstorming	**CO-4**		

	Unit – 5						
36.	**Network Management Security**	Overview of SNMP Architecture		• Lecture • Buzz Grouping	**CO-5**		
37.		SMMPVI1		• Lecture • Brainstorming	**CO-5**		
38.		Communication Facility		• Lecture • Brainstorming	**CO-5**		
39.		SNMPV3		• Lecture • Brainstorming	**CO-5**		
40.		Revision of Unit- 5		• Brainstorming • Buzz Grouping	**CO-5**		
41.		Discussed University Ques		• Brainstorming • Buzz Grouping	**CO-5**		
	Unit – 6						
42.	**System Security**	Intruders, Viruses and Relate Threats		• Lecture • Brainstorming	**CO-6**		
43.		Firewall Design Principles		• Lecture • Brainstorming	**CO-6**		
44.		examples using available software platforms/case tools		• Lecture • Brainstorming	**CO-6**		
45.		Configuration Management.		• Lecture • Brainstorming	**CO-6**		
46.		Revision of Unit- 6		• Buzz Grouping • Brainstorming	**CO-6**		
47.		Discussed University Ques		• Brainstorming • Buzz Grouping	**CO-6**		

Text Books:

1. W.Stallings, Cryptography and Network Security, Principles and Practice, Pearson Education, 2000.

Reference Books:

1. W. Stallings, Networks Security Essentials: Application & Standards, Pearson Education, 2000.