	ANNA UNIVERSITY **BHARATHIDASAN INSTITUTE OF TECHNOLOGY** **TIRUCHIRAPPALLI – 620 024.** **DEPARTMENT OF INFORMATION TECHNOLOGY**	**Year: Dec'18 – April'19** **Semester: EVEN**

LESSON PLAN

Course Details

Name of the Programme	B. Tech IT	Batch	2015-2019
Semester & Year	VIII & IV	No. of Students	52
Subject Code & Name	CS6004 -CYBER FORENSICS		

UNIT 1

NETWORK LAYER SECURITY &TRANSPORT LAYER SECURITY

IPSec Protocol - IP Authentication Header - IP ESP - Key Management Protocol for IPSec.
Transport layer Security: SSL protocol, Cryptographic Computations – TLS Protocol.

Objective: Learn the security issues network layer and transport layer..

Session No	Topics to be covered	Text/Ref& Page No.	Teaching Method
1	IPSec Protocol	T1-Ch 7; pg: 243-248	BB/LCD
2	IP Authentication Header	T1-Ch-7;pg:250-253	BB/LCD
3	IP ESP	T1Ch-7;pg:253-258	BB/LCD
4	Key Management Protocol for IPSec.	T1-Ch-7,pg:260-261	BB/LCD
5	Transport layer Security	T1-Ch -8;pg:277-278	BB/LCD
6	SSL protocol	T1-Ch -8;pg:278-290	BB/LCD
7	SSL protocol	T1-Ch -8;pg: 278-290	BB/LCD
8	Cryptographic Computations	T1-Ch -8;pg: 290-291	BB/LCD
9	TLS Protocol	T1-Ch -8;pg:291-302	BB/LCD
Content beyond syllabus covered (if any):			
Course Outcome 1: The students will be able to Discuss the security issues network layer and transport layer.			

UNIT II
E-MAIL SECURITY & FIREWALLS

PGP - S/MIME - Internet Firewalls for Trusted System: Roles of Firewalls – Firewall related Terminology- Types of Firewalls - Firewall designs - SET for E-Commerce Transactions.

Objective: To be exposed to security issues of the application layer.

Session No	Topics to be covered	Text/Ref	Teaching Method
10	PGP	T1-Ch -9;pg: 305-335	BB/LCD
11	S/MIME	T1-Ch -9;pg:324-329	BB/LCD
12	Internet Firewalls for Trusted System: Roles of Firewalls	T1-Ch -10;pg: 339 -340	BB/LCD
13	Firewall related terminology.	T1-Ch -10;pg:341-344	BB/LCD
14	Types of Firewalls	T1-Ch -10;pg:344-349	BB/LCD
15	Firewall designs	T1-Ch -10;pg:350-352	BB/LCD
16	SET for E-Commerce Transactions	T1-Ch -11,pg:355-376	BB/LCD
17	SET for E-Commerce Transactions	T1-Ch -11,pg:355-376	BB/LCD
18	SET for E-Commerce Transactions	T1-Ch -11,pg:355-376	BB/LCD
Content beyond syllabus covered (if any):			
Course Outcome 2: Apply security principles in the application layer.			
Internal Assessment I			

UNIT III
INTRODUCTION TO COMPUTER FORENSICS

Introduction to Traditional Computer Crime, Traditional problems associated with Computer Crime. Introduction to Identity Theft & Identity Fraud. Types of CF techniques - Incident and incident response methodology - Forensic duplication and investigation. Preparation for IR:

Creating response tool kit and IR team. - Forensics Technology and Systems - Understanding Computer Investigation – Data Acquisition..

Objective: To explain computer forensics.

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Session No	Topics to be covered	Text/ Ref	Teaching Method
19	Introduction to Traditional Computer Crime,	T2-Ch -2,pg:28-30	BB/LCD
20	Traditional problems associated with Computer Crime.	T2-Ch -2,pg:30-35	BB/LCD
21	Introduction to Identity Theft & Identity Fraud.	T2-Ch -2,pg: 37-43	BB/LCD
22	Types of CF techniques, Incident and incident response methodology	T2-Ch -2,pg: 45-52	BB/LCD
23	Forensic duplication and investigation.	T2-Ch -2,pg:54-60	BB/LCD
24	Preparation for IR: Creating response tool kit and IR team.	T2-Ch -2,pg:65-72	BB/LCD
25	Forensics Technology and Systems	T2-Ch -2,pg:73-84	BB/LCD
26	Understanding Computer Investigation	T2-Ch -2,pg:89-92	BB/LCD
27	Data Acquisition.	T2-Ch -2,pg:102-130	BB/LCD
Course Outcome 3: The student should be able to explain computer forensics.			

UNIT IV

EVIDENCE COLLECTION AND FORENSICS TOOLS

Processing Crime and Incident Scenes – Working with Windows and DOS Systems-Current Computer Forensics Tools: Software/ Hardware Tools.

Objective: To be familiar with forensics tools.

Session No	Topics to be covered	Text/ Ref	Teaching Method
28	Processing Crime and Incident Scenes	T2-Ch -5,pg:149-195	BB/LCD

29	Processing Crime and Incident Scenes	T2-Ch -5,pg:149-195	BB/LCD
30	Working with Windows and DOS Systems.	T2-Ch -6,pg:149-195	BB/LCD
31	Working with Windows and DOS Systems.	T2-Ch -6,pg:197-258	BB/LCD
32	Working with Windows and DOS Systems.	T2-Ch -6,pg:197-258	BB/LCD
33	Current Computer Forensics Tools: Software/ Hardware Tools	T2-Ch-7, pg:259-294	BB/LCD
34	Current Computer Forensics Tools: Software/ Hardware Tools	T2-Ch-7, pg:259-294	BB/LCD
35	Current Computer Forensics Tools: Software/ Hardware Tools	T2-Ch-7, pg:259-294	BB/LCD
36	Current Computer Forensics Tools: Software/ Hardware Tools	T2-Ch-7, pg:259-294	BB/LCD
Content beyond syllabus covered (if any):			
Course Outcome 4: The students will be able to Use forensics tools.			
Internal Assessment II			

UNIT V
ANALYSIS AND VALIDATION

Validating Forensics Data – Data Hiding Techniques – Performing Remote Acquisition – Network Forensics – Email Investigations – Cell Phone and Mobile Devices Forensics.

Objective: To Learn to analyze and validate forensics data.

Session No	Topics to be covered	Text/ Ref	Teaching Method
37	Validating Forensics Data	T2-Ch-9,pg:351-355	BB/LCD
38	Data Hiding Techniques	T2-Ch-10,pg:356-362	BB/LCD
39	Performing Remote Acquisition	T2-Ch-10,pg:365-367	BB/LCD
40	Network Forensics.	T2-Ch-11,pg:428-429	BB/LCD

41	Network Forensics.	T2-Ch-11,pg:428-429	BB/LCD
42	Email Investigations	T2-Ch-12,pg:451-488	BB/LCD
43	Email Investigations	T2-Ch-12,pg:451-488	BB/LCD
43	Cell Phone and Mobile Devices Forensics	T2-Ch-12,pg:495-513	
44	Cell Phone and Mobile Devices Forensics	T2-Ch-12,pg:495-513	BB/LCD
45	Cell Phone and Mobile Devices Forensics	T2-Ch-12,pg:495-513	BB/LCD
Model Exam			

TEXT BOOKS:

1. Man Young Rhee, "Internet Security: Cryptographic Principles", "Algorithms and Protocols", Wiley Publications, 2003.
2. Nelson, Phillips, Enfinger, Steuart, "Computer Forensics and Investigations", Cengage Learning, India Edition, 2008.

REFERENCES:

1. John R.Vacca, "Computer Forensics", Cengage Learning, 2005
2. Richard E.Smith, "Internet Cryptography", 3rd Edition Pearson Education, 2008.
3.Marjie T.Britz, "Computer Forensics and Cyber Crime": An Introduction", 3rd Edition, Prentice Hall, 2013.

	Prepared by	**Approved by**
Signature		
Name	D. ASIR ANTONY GNANA SINGH	Mr. D. Venkatesan
Designation	Teaching Fellow, IT	Asst. Prof. & Head, IT/CSE