NARSIMHA REDDY ENGINEERING COLLEGE
(Autonomous)
Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad
Accredited by NBA&NAAC with A Grade

COURSE FILE

Program Name : CSE(CS)

Name of the Course : COMPUTER FORENSICS

Course Code : CS3213OE

Semester and Year : III-II

Faculty Name : ANUSHA K

S.No	Contents	Included
1	Vision, Mission, COs, POs, PSOs, PEOs	
2	Academic calendar	
3	Syllabus	
4	CO/PO mapping	
5	Nominal Rolls of the Students	
6	Timetable	
7	Lesson Plan	
8	Unit wise Question Bank	
9	Old Question Papers	
10	Question Papers (CIA&SEE)	
11	Tutorial sheets	
12	Learning Methodologies: Experiential learning(Industrial visits, Internships, Mini Projects, Academic Projects, Guest Lectures, Student Work shops etc.,), Problem Solving methodologies (assignments, quiz, casestudy etc.) **Note:1. At least TWO learning Methodologies to be included in your course** **2. The above methodologies for illustration ,you may add more**	
13	Subject notes/PPTs/self study material	
14	Feedback on Curriculum Design and development	
15	CO/PO attainment, analysis and Action taken report	

Recommendation/Remarks:

Signature of the Faculty Signature of the Head Signature of the Principal

1.Department Vision & Mission

Vision of the Department:

To emerge as a center of excellence with international reputation by adapting the rapid advancements in the computer specialization fields.

Mission of the Department:

1. To provide a strong theoretical and practical background in the area of computer science with an emphasize on software development
2. To inculcate Professional behavior, strong ethical values, leadership qualities, research capabilities and lifelong learning.
3. To educate students to be effective problem solvers, apply knowledge with social sensitivity for the betterment of the society and humanity as a whole.

PROGRAM OUTCOMES:

PO1. Engineering knowledge: Apply the knowledge of basic sciences and fundamental engineering concepts in solving engineering problems.

PO2. Problem analysis: Identify and define engineering problems, conduct experiments and investigate to analyze and interpret data to arrive at substantial conclusions.

PO3. Design/development of solutions: Propose an appropriate solution for engineering problems complying with functional constraints such as economic, environmental, societal, ethical, safety and sustainability.

PO4. Conduct investigations of complex problems: Perform investigations, design and conduct experiments, analyze and interpret the results to provide valid conclusions.

PO5. Modern tool usage: Select or create and apply appropriate techniques and IT tools for the design & analysis of the systems.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Demonstrate professional skills and contextual reasoning to assess environmental or societal issues for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multi-disciplinary situations.

PO10. Communication: Communicate effectively among engineering community, being able to comprehend and write effectively reports, presentation and give / receive clears instructions.

PO11. Project management and finance: Demonstrate and apply engineering & management principles in their own / team projects in multidisciplinary environment.

PO12. Life-long learning: Recognize the need for, and have the ability to engage in independent and lifelong learning

PROGRAM SPECIFIC OUTCOMES

PSO1: To provide effective and efficient real time solutions using acquired knowledge in various domains to crack problem using suitable mathematical analysis, data structure and suitable algorithm.

PSO2: To develop environmental and sustainable engineering solution having global and societal context using modern IT tools.

PSO3: To exhibit professional and leadership skills with ethical values dealing diversified projects with excellent communication and documentation qualities0

Program Educational Objectives (PEOs) :

PEO#1	To apply the knowledge of mathematics, basic sciences and engineering solving the real world computing problems to succeed in higher education and professional careers.
PEO#2	To develop the skills required to comprehend, analyze, design and create innovative computing products and solutions for real life problems.
PEO#3	To inculcate professional and ethical attitude, communication and teamwork skills, multi-disciplinary approach and an ability to relate computer engineering issues with social awareness.

List Of CO's:

Course Code.CO No	Course Outcomes (CO's)
At the end of the course student will be able to	
C324.1	• Students will understand the usage of computers in forensic, and how to use various forensic tools for a wide variety of investigations
C324.2	• It gives an opportunity to students to continue their zeal in research in computer forensics.
C324.3	• Able to identify the digital evidence.
C324.4	• Evaluating computer forensic tool needs
C324.5	• Understanding file systems, examining NTFS disks

2.ACADEMIC CALENDAR

NARSIMHA REDDY ENGINEERING COLLEGE
(UGC-AUTONOMOUS)
(Sponsored by Jakkula Educational Society)
Maisammaguda (V), Dhulapally Post, Near Kompally, Secunderabad - 500 100 Telangana
Affiliated to JNTUH, Approved by AICTE, New Delhi, Courses Accredited by NBA, NAAC with "A" Grade, An ISO 9001: 2015 Certified Institution

PROPOSED ACADEMIC CALENDAR FOR B.TECH III YEAR I SEMESTER FOR THE AY 2022-23

S.No.	Description	Duration		Duration (Weeks)
		From	To	
1	Commencement of I Semester class work	23-08-2022		
2	1st Spell of Instructions(Including Dussera Vacation)	23-08-2022	22-10-2022	9
3	First Mid Term Examinations	24-10-2022	29-10-2022	1
4	Submission of Mid-I Marks	02-11-2022		
5	Parent-Teacher Meeting	05-11-2022		
6	2nd Spell of Instructions	31-10-2022	24-12-2022	8
7	Second Mid Term Examinations	27-12-2022	31-12-2022	1
8	Submission of Mid-II Marks	04-01-2023		
9	Preparation Holidays & Lab Examinations	02-01-2023	07-01-2023	1
10	End Semester Examinations	09-01-2023	21-01-2023	2

PROPOSED ACADEMIC CALENDAR FOR B.TECH III YEAR II SEMESTER FOR THE AY 2022-23

S.No.	Description	Duration		
		From	To	
1	Commencement of II Semester class work	23-01-2023		
2	1st Spell of Instructions	23-01-2023	18-03-2023	8
3	First Mid Term Examinations	20-03-2023	25-03-2023	1
4	Submission of Mid-I Marks	29-03-2023		
5	Parent-Teacher Meeting	01-04-2023		
6	2nd Spell of Instructions(Including 2 Week Summer Vacation)	27-03-2023	03-06-2023	10
7	Second Mid Term Examinations	05-06-2023	10-06-2023	1
8	Submission of Mid-II Marks	14-06-2023		
9	Preparation Holidays & Lab Examinations	12-06-2023	17-06-2023	1
10	End Semester Examinations	19-06-2023	01-07-2023	2

Copy to:
1. Chairman
2. IQAC
3. All HODs
4. Administrative Officer
5. Account officer
6. Web Portal I/C
7. ERP I/C
8. Library
9. Student Notice Boards

PRINCIPAL
PRINCIPAL
NARSIMHA REDDY ENGINEERING COLLEGE
Survey No. 518, Maisammaguda (V), Dhulapally (P
Medchal (M), Medchal Dist, Hyderabad-500 100

3. SYLLABUS:

UNIT-I

Computer Forensics Fundamentals: What is Computer Forensics?

Forensics in Law Enforcement, Computer Forensics Assistance to Human Resources / Employment Proceedings, Computer Forensics Services, Benefits of Professional Forensics Methodology, Steps taken by Computer Forensics Specialists

Types of Computer Forensics Technology: Types of Military Computer Forensic Technology, Types of Law Enforcement — Computer Forensic Technology — Types of Business Computer Forensic Technology

Computer Forensics Evidence and Capture: Data Recovery Defined — Data Back-up and Recovery — The Role of Back-up in Data Recovery — The Data-Recovery Solution.

UNIT-II

Evidence Collection and Data Seizure: Why Collect Evidence? Collection Options —Obstacles — Types of Evidence — The Rules of Evidence — Volatile Evidence — General Procedure — Collection and Archiving — Methods of Collection — Artifacts — Collection Steps — Controlling Contamination: The Chain of Custody

Duplication and Preservation of Digital Evidence: Preserving the Digital Crime Scene — Computer Evidence Processing Steps — Legal Aspects of Collecting and Preserving Computer Forensic Evidence

Computer Image Verification and Authentication: Special Needs of Evidential Authentication—Practical Consideration—Practical Implementation.

UNIT-III

Computer Forensics analysis and validation: Determining what data to collect and analyze, validating forensic data, addressing data-hiding techniques, performing remote acquisitions

Network Forensics: Network forensics overview, performing live acquisitions ,developing standard procedures for network forensics, using network tools, examining the honey net project.

Processing Crime and Incident Scenes: Identifying digital evidence, collecting evidence in private-sector incident scenes, processing law enforcement crime scenes, preparing for a search, securing a computer incident or crime scene, seizing digital evidence at the scene, storing digital evidence, obtaining a digital hash, reviewing a case

UNIT-IV

Current Computer Forensic tools: evaluating computer forensic tool needs, computer forensics software tools, computer forensics hardware tools, validating and testing forensics software

E-Mail Investigations: Exploring the role of e-mail in investigation, exploring the roles of the client and server in e-mail, investigating e-mail crimes and violations, understanding e-mail servers, using specialized e-mail forensic tools.

Cell phone and mobile device forensics: Understanding mobile device forensics, understanding acquisition procedures for cell phones and mobile devices.

UNIT-V

Working with Windows and DOS Systems: understanding file systems, exploring Microsoft File Structures, Examining NTFS disks, Understanding whole disk encryption, Windows registry, Microsoft startup tasks, MS-DOS startup tasks, virtual machines.

TEXTBOOKS

1. Computer Forensics, Computer Crime Investigation by John R. Vacca ,Firewall Media ,New Delhi.
2. Computer Forensics and Investigations by Nelson, Phillips Enfinger, Steuart, CENGAGE Learning

REFERENCEBOOKS

1. Real Digital Forensics by Keith J.Jones ,Richard Bejtiich, Curtis W.Rose, Addison-Wesley Pearson Education
2. Forensic Compiling ,A Tractitioner is Guide by Tony Sammes and Brian Jenkin son ,Springer International edition.
3. Computer Evidence Collection & Presentation by Christopher L.T.Brown, Firewall Media.
4. Home l and Security, Techniques & Technologies by Jesus Mena, Firewall Media.
5. Software Forensics Collecting Evidence from the Scene of a Digital Crime by Robert M. Slade, TMH 2005

Windows Forensics by Chad Steel, Wiley India Edition

4.Course Outcome (CO)-Program Outcome (PO) Matrix:(2022-2023)
Course Name: CF

	PO[1]	PO[2]	PO[3]	PO[4]	PO[5]	PO[6]	PO[7]	PO[8]	PO[9]	PO[10]	PO[11]	PO[12]
CO[1]	3				3							
CO[2]		2		1								
CO[3]		2										
CO[4]	2				3							
CO[5]				2	2							

Mapping of course outcomes with PSO's

CO PSO mapping(2022-23)

	PSO[1]	PSO[2]	PSO[3]
CO[1]	2	3	
CO[2]		2	
CO[3]	2		
CO[4]		3	
CO[5]		2	

5.Nominal Rolls:

S.No	HALL TICKET NUMBER	Name of the Candidate
1	20X01A6201	CHALLA SANTHOSH REDDY
2	20X01A6202	HOTARKAR RAVI TEJA
3	20X01A6203	KEMIDI VISHAL
4	20X01A6204	KOMURABOINA PRANAY
5	20X01A6205	KORPOLE KASHYAP REDDY
6	20X01A6206	KONDETI VINAY KUMAR REDDY
7	20X01A6207	MASKU SAI PRIYA REDDY
8	20X01A6208	TIRUPATHI SAI SAMPATH KUMAR
9	20X01A6209	PATLOLLA RISHITHA REDDY
10	20X01A6211	SHEELA SAI CHANDHU
11	20X01A6212	GADDAMEEDI SOWJANYA
12	21X05A6201	ADEPU AKSHAY
13	21X05A6202	ADUSUMALLI KIRAN KUMAR
14	21X05A6203	AKULA MANASA
15	21X05A6204	AVASARALA VENKATA KARTHIKEYA
16	21X05A6205	BADAMBAI BHARTHI
17	21X05A6206	BANDI VENU MUKESH
18	21X05A6207	BOINI PRUTHI RAJ

19	21X05A6208	BONALA RAJESH
20	21X05A6209	CHALLARAM HARI KRISHNA
21	21X05A6210	CHINTHALA AMULYA
22	21X05A6211	DAGGUBATI GOURI VENKATA NAGA SAI SATVIK
23	21X05A6212	DUBASI SHANTHAN KUMAR
24	21X05A6213	EERAKARI AMITRAJ
25	21X05A6214	ERRAM VIVEK
26	21X05A6215	GARIGANTI ABHISHEK
27	21X05A6216	KAMUNI BHANU PRAKASH
28	21X05A6217	KAMUNI HRUDAY
29	21X05A6218	KOMMU ANKITH
30	21X05A6219	KOTHAPALLY ARUN KUMAR
31	21X05A6220	KUDULLA SHIVA SAI RAM
32	21X05A6221	MANDEPALLI RANJITH GOUD
33	21X05A6222	MUDAM SANJAY
34	21X05A6223	P SHRAVAN KUMAR
35	21X05A6224	PALA SWARNA DARSHINI
36	21X05A6225	PRAVEEN KUMAR VARMA
37	21X05A6226	RAJAM VIDYA
38	21X05A6227	SHAIK RIHANA

39	21X05A6228	SHAIK RIYAZ
40	21X05A6229	SOUDAMALLA POORNACHANDER
41	21X05A6230	SUDULA SAI KRISHNA
42	21X05A6231	TANNIRU VENKATA RAMANA
43	21X05A6232	THALLA SOUMYA
44	21X05A6233	THATI ANKITHA
45	21X05A6234	TIRANDAS MOHIT
46	21X05A6235	YAMBA SAI RIKITH
47	21X05A6236	YASOJU MANISH KUMAR
48	21X05A6237	B RAHUL

6. CLASS TIME TABLE

CLASS: III YEAR CSE CS – II SEM (2022-2023) **ROOM NUMBER:213 WEF:**

CLASS INCHARGE: G.Sangeetha

	1	**2**	**3**	**4**		**5**	**6**	**7**
HOUR/DAY	**9:30AM - 10:20AM**	**10:20AM - 11:10AM**	**11:10AM - 12:00PM**	**12.00PM-12.50PM**	**50PM – :40PM**	**1:40PM - 2:30PM**	**2:30PM -3:20PM**	**3:20PM -4.10PM**
MON	EH	CFS	SE	AI		CD LAB		
TUE	SE	CD	WMS	CFS		EH LAB		
WED	CFS	EH	CD	WMS		CFS	AI	CD
THU	WMS	SE	EH	SEMINAR		CD	CFS	SPORTS
FRI	EH	SE LAB						SE
SAT	CD	SE	EH	WMS		CFS	AI	CD

LUNCH

7.DETAILED LECTURE PLAN(2022-23)

S.No	Tentative Date	Topics as per JNTUH Syllabus	Topic Actually Covered	Suggested Book	Method BB/PPT
	UNIT I Computer Forensics Fundamentals				
1	30-1-2023	What is Computer Forensics?	What is Computer Forensics?	T1,T2	BB
2	30-1-2023	Forensics in Law Enforcement	Forensics in Law Enforcement	T1,T2	BB
3	31-1-2023	Computer Forensics Assistance to Human Resources	Computer Forensics Assistance to Human Resources	T2	BB
4	1-2-2023	Employment Proceedings	Employment Proceedings	T2	BB
5	2-2-2023	Computer Forensics Services	Computer Forensics Services	T2	BB
6	3-2-2023	Benefits of Professional Forensics Methodology	Benefits of Professional Forensics Methodology	T2	BB
7	4-2-2023	Steps taken by Computer Forensics Specialists	Steps taken by Computer Forensics Specialists	T2	BB
8	1-2-2023	Types of Military Computer Forensic Technology	Types of Military Computer Forensic Technology	T2	BB
9	6-2-2023	Types of Law Enforcement	Types of Law Enforcement	T2	BB
10	7-2-2023	Computer Forensic Technology	Computer Forensic Technology	T2	BB
11	8-2-2023	Types of Business Computer Forensic Technology	Types of Business Computer Forensic Technology	T2	BB
12	9-2-2023	Computer Forensics Evidence and Capture	Computer Forensics Evidence and Capture	T2	BB
13	10-2-2023	Data Recovery Defined	Data Recovery Defined	T2	BB

14	11-2-2023	Data Back-up and Recovery	Data Back-up and Recovery	T2	BB
15	13-2-2023	The Role of Back-up in Data Recovery	The Role of Back-up in Data Recovery	T2	BB
16	14-2-2023	The Data-Recovery Solution.	The Data-Recovery Solution.	T2	BB
	UNI-II				
17	15-2-2023	Why Collect Evidence? Collection Options — Obstacles	Why Collect Evidence? Collection Options — Obstacles	T2	BB
18	16-2-2023	Types of Evidence — The Rules of Evidence — Volatile Evidence	Types of Evidence — The Rules of Evidence — Volatile Evidence	T2	BB
19	17-2-2023	General Procedure — Collection and Archiving — Methods of Collection	General Procedure — Collection and Archiving — Methods of Collection	T2	BB
20	20-2-2023	Artifacts— Collection Steps —Controlling Contamination: The Chain of Custody	Artifacts— Collection Steps —Controlling Contamination: The Chain of Custody	T2	BB
21	21-2-2023	Preserving the Digital Crime Scene	Preserving the Digital Crime Scene	T2	BB
22	22-2-2023	Computer Evidence Processing Steps	Computer Evidence Processing Steps	T2	BB
23	23-2-2023	Legal Aspects of Collecting and Preserving Computer Forensic Evidence	Legal Aspects of Collecting and Preserving Computer Forensic Evidence	T2	BB
24	23-2-2023	Special Needs of Evidential Authentication	Special Needs of Evidential Authentication	T2	BB
25	24-2-2023	Practical Consideration	Practical Consideration	T2	BB
26	24-2-2023	Practical Implementation.	Practical Implementation.	T2	BB

	UNIT - III **Computer Forensics analysis and validation**				
27	25-2-2023	Determining what data to collect and analyze	Determining what data to collect and analyze	T2	BB
28	27-2-2023	validating forensic data, addressing data-hiding techniques	validating forensic data, addressing data-hiding techniques	T2	BB
29	28-2-2023	performing remote acquisitions	performing remote acquisitions	T2	BB
30	1-3-2023	Network forensics overview, performing live acquisitions	Network forensics overview, performing live acquisitions	T2	BB
31	2-3-2023	developing standard procedures for network forensics, using network tools	developing standard procedures for network forensics, using network tools	T2	BB
32	3-3-2023	Examining the honey net project. Identifying digital evidence	Examining the honey net project. Identifying digital evidence	T2	BB
33	4-3-2023	collecting evidence in private-sector incident scenes, processing law enforcement crime scenes,	collecting evidence in private-sector incident scenes, processing law enforcement crime scenes,	T2	BB
34	6-3-2023	preparing for a search, securing a computer incident or crime scene	preparing for a search, securing a computer incident or crime scene	T2	BB
35	7-3-2023	seizing digital evidence at the scene	seizing digital evidence at the scene	T2	BB
36	9-3-2023	storing digital evidence, obtaining a digital hash, reviewing a case	storing digital evidence, obtaining a digital hash, reviewing a case	T2	BB
	UNIT - IV **Current Computer Forensic tools**				
37	10-3-2023	Evaluating computer forensic tool needs	Evaluating computer forensic tool needs	T2	BB
38	11-3-2023	computer forensics software tools	computer forensics software tools	T2	BB
39	12-3-2023	computer forensics hardware tools	computer forensics hardware tools	T2	BB

40	14-3-2023	validating and testing forensics software	validating and testing forensics software	T2	BB
41	16-3-2023	Exploring the role of e-mail in investigation	Exploring the role of e-mail in investigation	T2	BB
42	18-3-2023	exploring the roles of the client and server in e-mail	exploring the roles of the client and server in e-mail	T2	BB
43	19-3-2023	investigating e-mail crimes and violations	investigating e-mail crimes and violations	T2	BB
44	3-4-2023	understanding e-mail servers, using specialized e-mail forensic tools	understanding e-mail servers, using specialized e-mail forensic tools	T2	BB
45	5-4-2023	Understanding mobile device forensics	Understanding mobile device forensics	T2	BB
46	10-4-2023	understanding acquisition procedures for cell phones and mobile devices	understanding acquisition procedures for cell phones and mobile devices	T2	BB
47	17-4-2023	understanding acquisition procedures for cell phones and mobile devices	understanding acquisition procedures for cell phones and mobile devices	T2	BB
	UNIT - V **Working with Windows and DOS Systems**				
48	18-4-2023	understanding file systems	understanding file systems	T1,T2	BB
49	19-4-2023	Exploring Microsoft File Structures	exploring Microsoft File Structures	T1,T2	BB
50	27-4-2023	Examining NTFS disks	Examining NTFS disks	T1,T2	BB
51	13-5-2023	Examining NTFS disks	Examining NTFS disks	T1,T2	BB
52	15-5-2023	Understanding whole disk encryption	Understanding whole disk encryption	T1,T2	BB
53	16-5-2023	Understanding whole disk encryption	Understanding whole disk encryption	T1,T2	BB
54	17-5-2023	Windows registry	Windows registry	T1,T2	BB
55	17-5-2023	Windows registry	Windows registry	T1,T2	BB
56	18-5-2023	Microsoft startup tasks	Microsoft startup tasks	T1,T2	BB

57	18-5-2023	Microsoft startup tasks	Microsoft startup tasks	T1,T2	BB
58	19-5-2023	MS-DOS startup tasks	MS-DOS startup tasks	T1,T2	BB
59	19-5-2023	MS-DOS startup tasks	MS-DOS startup tasks	T1,T2	BB
60	20-5-2023	virtual machines.	virtual machines.	T1,T2	BB
61	20-5-2023	virtual machines.	virtual machines.	T1,T2	BB

8. UNIT WISE QUESTION BANK, SHORT AND LONG ANSWER TYPE QUESTIONS

UNIT–I

Computer Forensics Fundamentals

S.No		Questions	BT	CO	PO
Part –A(Short Answer Questions)					
1		What is Computer Forensics?	L1	CO1	PO1,PO5
2		List the Use of Computer Forensics in Law enforcement.	L1	CO1	PO1, PO5
3		Write three types of Computer Forensics Technologies.	L1	CO1	PO1, PO5
4		List the Steps taken by Computer Forensics Specialists	L1	CO1	PO1, PO5
5		What are the benefits of professional forensics methodology?	L1	CO1	PO1, PO5
6		What is the role of a computer in a crime?	L1	CO1	PO1, PO5
7		What are the problems of computer forensics evidence?	L1	CO1	PO1, PO5
8		List the Types of Law Enforcement.	L1	CO1	PO1, PO5
9		List the Computer Forensics Services.	L1	CO1	PO1, PO5
10		Give a note on Data recovery solution	L1	CO1	PO1, PO5
Part– B(Long Answer Questions)					
11	a)	Explain the Steps taken by Computer Forensics Specialist.	L6	CO1	PO1, PO5
	b)	Discus the Purpose of Computer Forensics	L5	CO1	PO1, PO5
12	a)	List and explain the Benefits of professional Forensics Methodology.	L2	CO1	PO1, PO5
	b)	What is the solution for data recovery.	L2	CO1	PO1, PO5
13	a)	Explain briefly about Role of backup in data recovery	L2	CO1	PO1, PO5
	b)	Explain briefly about Data recovery solution	L1	CO1	PO1, PO5
14	a)	Describe the Computer Forensic Technology.	L2	CO1	PO1, PO5
	b)	Explain Types of Business Computer Forensic Technology.	L2	CO1	PO1, PO5
15	a)	Discuss the Computer Forensics Evidence and capture.	L2	CO1	PO1, PO5
	b)	Discuss the Types of Computer Forensics Technology	L2	CO1	PO1, PO5
16	a)	Is backup necessary in data recovery? explain why.	L2	CO1	PO1, PO5
	b)	What are the technologies of computer forensics.	L2	CO1	PO1, PO5

UNIT–II

S.No		Questions	BT	CO	PO
Part –A(Short Answer Questions)					
1		Why Collect Evidence?	L1	CO2	PO2,PO4
2		List the Rules of Evidence.	L1	CO2	PO2,PO4
3		Write the Preserving the Digital Crime Scene.	L1	CO2	PO2,PO4
4		Write the Collection Steps of Evidence in Sequence.	L1	CO2	PO2,PO4
5		How Authenticode works with VeriSign Digital IDs?	L1	CO2	PO2,PO4
6		How do you seize digital evidence in forensics?	L1	CO2	PO2,PO4
7		What is seizure of digital evidence?	L1	CO2	PO2,PO4
8		What are the 5 rules when collecting electronic evidence?	L1	CO2	PO2,PO4
9		How do you create a digital forensic duplication?	L1	CO2	PO2,PO4
10		What is preservation of digital evidence?	L1	CO2	PO2,PO4
Part– B(Long Answer Questions)					
11	a)	Write five rules of Evidences and Explain in Brief.	L2	CO2	PO2,PO4
	b)	Explain the Concept of Digital ID.	L2	CO2	PO2,PO4
12	a)	Discuss the complete legal Aspects of Collecting and Preserving Computer Forensic Evidence.	L3	CO2	PO2,PO4
	b)	Elaborate the Role of Evidence in Computer Forensics and Explain special needs of evidential authentication.	L2	CO2	PO2,PO4
13	a)	Explain the complete process of "Microsoft's Authenticode – VeriSign" Digital IDs Process.		CO2	PO2,PO4
	b)	Discuss the Preserving the Digital Crime Scene.	L2	CO2	PO2,PO4
14	a)	Explain the Computer Evidence processing steps.	L2	CO2	PO2,PO4
	b)	Elaborate the Special needs of Evidential Authentication.		CO2	PO2,PO4
15	a)	Describe the Computer image Verification and Authentication.	L2	CO2	PO2,PO4
	b)	Explain the Evidence Collection and Data Seizure.	L4	CO2	PO2,PO4
16	a)	Explain special needs of evidential authentication	L2	CO2	PO2,PO4
	b)	How to Preserve Computer Forensic Evidence.	L2	CO2	PO2,PO4

S.No		Questions	BT	CO	PO
Part –A(Short Answer Questions)					
1		How are standard procedures developed for network forensics?	L1	CO3	PO2
2		Write about how to secure a Network.	L1	CO3	PO2
3		What are the three rules of forensic hash?	L1	CO3	PO2
4		Explain how to validate Forensic Data with an Example?	L1	CO3	PO2
5		What is computer forensic validation?	L1	CO3	PO2
6		How to validate forensic data?	L1	CO3	PO2
7		Write the performing remote acquisitions.	L1	CO3	PO2
8		What is computer forensic validation?	L1	CO3	PO2
9		What are the five steps in the computer forensics process?	L1	CO3	PO2
10		What is data analysis process in forensic?	L1	CO3	PO2
Part– B(Long Answer Questions)					
11	a)	List and explain the tools used in network forensics.	L2	CO3	PO2
	b)	Explain the addressing data-hiding techniques.	L2	CO3	PO2
12	a)	Discuss the Determining what data to collect and analyze.	L2	CO3	PO2
	b)	What are the 5 parts for processing a crime scene and who perform them? Explain	L2	CO3	PO2
13	a)	Explain the procedure of processing the crime scene.	L2	CO3	PO2
	b)	Describe the processing law enforcement crime scenes.	L1	CO3	PO2
14	a)	Illustrate the securing a computer incident or crime scene.	L2	CO3	PO2
	b)	Elaborate the seizing digital evidence at the scene.	L2	CO3	PO2
15	a)	Describe the storing digital evidence.	L4	CO3	PO2
	b)	Explain the Network forensic overview.	L1	CO3	PO2
16	a)	How to secure a computer incident.	L1	CO3	PO2
	b)	What are the techniques of data hiding.	L1	CO3	PO2

UNIT–IV

S.No	Questions	BT	CO	PO
Part –A(Short Answer Questions)				
1	What are the methods of email forensic investigation?	L1	CO4	PO1,PO5
2	What is email investigation?	L3	CO4	PO1,PO5
3	What is forensic analysis of email?	L1	CO4	PO1,PO5
4	What is email analysis in cyber security?	L1	CO4	PO1,PO5
5	What does mobile phone forensics do?	L1	CO4	PO1,PO5
6	How evidence forensics can be obtain from cell phones?	L1	CO4	PO1,PO5

7		How cell phones and other technology can be used in forensic science?	L1	CO4	PO1,PO5
8		What are the forensic techniques that can be applied to mobile devices?	L2	CO4	PO1,PO5
9		What type of evidence can be collected from and mobile device?	L1	CO4	PO1,PO5
10		What are computer forensics tools?	L1	CO4	PO1,PO5
Part– B(Long Answer Questions)					
11	a)	Explain the validating and testing forensic software.	L2	CO4	PO1,PO5
	b)	Discuss the evaluating computer forensic tool needs.	L2	CO4	PO1,PO5
12	a)	Illustrate the computer forensic software tools.	L2	CO4	PO1,PO5
	b)	Discuss the computer forensic hardware tools.	L1	CO4	PO1,PO5
13	a)	Describe the investigating email crimes and violations.	L2	CO4	PO1,PO5
	b)	Explain the understanding acquisition procedures for cell phones and mobile devices.	L4	CO4	PO1,PO5
14	a)	Explain the Understanding mobile device forensic.	L1	CO4	PO1,PO5
	b)	Elaborate the Exploring the role of email in investigations.	L2	CO4	PO1,PO5
15	a)	Describe the exploring the role of client and server in email.	L2	CO4	PO1,PO5
	b)	Explain the using specialized email forensic tools.	L2	CO4	PO1,PO5
16	a)	Describe the testing of forensic software.	L2	CO4	PO1,PO5
	b)	List out the violations and investigations of email crimes.	L1	CO4	PO1,PO5

UNIT–V

S.No	Questions	BT	CO	PO
Part –A(Short Answer Questions)				
1	What is use of registers in windows?	L1	CO5	PO4,PO5
2	What do you mean by encrypting a disc?	L1	CO5	PO4,PO5
3	What is the difference between Windows and DOS operating system?	L1	CO5	PO4,PO5
4	What are Microsoft startup tasks?	L1	CO5	PO4,PO5
5	What are the 4 basic types of encryption systems?	L1	CO5	PO4,PO5
6	What is MS-DOS and why it is used for?	L1	CO5	PO4,PO5
7	Difference between DOS and Windows.	L1	CO5	PO4,PO5
8	Define virtual machines.	L1	CO5	PO4,PO5
9	How can you switch between DOS and Windows?	L1	CO5	PO4,PO5
10	What is virtual machine and how does it work?	L1	CO5	PO4,PO5
Part– B(Long Answer Questions)				

11	a)	Discuss about Virtual Machines	L2	CO5	PO4,PO5
	b)	Write short notes on a. Microsoft File Structures. b. Microsoft Startup Tasks.	L2	CO5	PO4,PO5
12	a)	Explain the NTFS Encrypting File System.	L2	CO5	PO4,PO5
	b)	Explain the features of NTFS.	L2	CO5	PO4,PO5
13	a)	Discuss the Windows Registry Commands.	L2	CO5	PO4,PO5
	b)	Elaborate the understanding file systems.	L4	CO5	PO4,PO5
14	a)	Give a brief note on MS Dos startup tasks.	L2	CO5	PO4,PO5
	b)	What are virtual machines give examples? Explain	L2	CO5	PO4,PO5
15	a)	Elaborate the Microsoft startup tasks.	L1	CO5	PO4,PO5
	b)	Illustrate MS Dos startup tasks.	L2	CO5	PO4,PO5
16	a)	Describe the structure of Microsoft File.	L1	CO5	PO4,PO5
	b)	List out the features of NTFS.	L1	CO5	PO4,PO5

9. PREVIOUS END EXAM QUESTION PAPERS

Model Question paper

Q.P Code: CS3210E Hall Ticket No.: | | | | | | | | | | |

NARSIMHA REDDY ENGINEERING COLLEGE(UGC AUTONOMOUS)

MODEL QUESTION PAPER

III B.Tech II Semester (NR20) Regular Examination, JUNE/JULY 2023

COMPUTER FORENSICS

(CSE / CS/DS/AI&ML)

Time :3 hours Maximum marks: 75

Note:
- This question paper contains two parts A and B
- Part A is compulsory which carries 25 marks (1st 5 sub questions are one from each unit carry 2 Marks each & Next 5 sub questions are one from each unit carry 3 Marks). Answer all questions in Part A
- Part B Consists of 5 Units. Answer any one full question from each unit. Each question carries 10 Marks and may have a, b sub questions

Part-A (25 Marks)
Answer all questions

Q.No		Question	M	BL	CO	PO
1)	a.	What is Computer Forensics?	2	L1	CO1	PO1, PO5
	b.	List the Use of Computer Forensics in Law enforcement.	2	L1	CO1	PO1, PO5
	c.	List the Rules of Evidence.	2	L1	CO2	PO2,PO4
	d.	Write the Preserving the Digital Crime Scene.	2	L1	CO2	PO2,PO4
	e.	How are standard procedures developed for network forensics?	2	L1	CO3	PO2
	f.	Write about how to secure a Network.	3	L1	CO3	PO2
	g.	How evidence forensics can be obtain from cell phones?	3	L1	CO4	PO1,PO5
	h.	How cell phones and other technology can be used in forensic science?	3	L1	CO4	PO1,PO5
	i.	What are Microsoft startup tasks?	3	L1	CO5	PO4,PO5
	j.	What are the 4 basic types of encryption systems?	3	L1	CO5	PO4,PO5

Part-B **(50 Marks)**

Answer any five questions

All Questions carry equal Marks

Q.No		Question	M	BL	CO	PO
		UNIT–I				
2)	a.	Explain the Steps taken by Computer Forensics Specialist.	5	L2	CO1	PO1, PO5
	b.	Discus the Purpose of Computer Forensics	5	L2	CO1	PO1, PO5
		OR				
3)	a.	Explain briefly about Role of backup in data recovery	5	L3	CO1	PO1, PO5
	b.	Explain briefly about Data recovery solution	5	L2	CO1	PO1, PO5
		UNIT–II				
4)	a.	Write five rules of Evidences and Explain in Brief.	5	L2	CO2	PO2,PO4
	b.	Explain the Concept of Digital ID.	5	L2	CO2	PO2,PO4
		OR				
5)	a.	Explain the complete process of "Microsoft's Authenticode – VeriSign" Digital IDs Process.	5	L3	CO2	PO2,PO4
	b.	Discuss the Preserving the Digital Crime Scene.	5	L3	CO2	PO2,PO4
		UNIT–III				
6)	a.	List and explain the tools used in network forensics.	5	L2	CO3	PO2
	b.	Explain the addressing data-hiding techniques.	5	L2	CO3	PO2
		OR				
7)	a.	Discuss the Determining what data to collect and analyze.	5	L1	CO3	PO2
	b.	What are the 5 parts to processing a crime scene and who perform them? Explain	5	L1	CO3	PO2
		UNIT–IV				
8)	a.	Explain the validating and testing forensic software.	5	L1	CO4	PO1,PO5
	b.	Discuss the evaluating computer forensic tool needs.	5	L4	CO4	PO1,PO5
		OR				
9)	a.	Illustrate the computer forensic software tools.	5	L3	CO4	PO1,PO5
	b.	Discuss the computer forensic hardware tools.	5	L4	CO4	PO1,PO5
		UNIT–V				
10)	a.	Explain the NTFS Encrypting File System.	5	L2	CO5	PO4,PO5
	b.	Explain the features of NTFS.	5	L4	CO5	PO4,PO5
		OR				
11)	a.	Elaborate the Microsoft startup tasks.	5	L2	CO5	PO4,PO5

	b.	Illustrate MS Dos startup tasks.	5	L2	CO5	PO4,PO5

M – Marks **CO –** Course Outcomes **PO –** Program Outcomes

BL – Bloom's Taxonomy Levels (**L1–**Remembering, **L2–**Understanding, **L3–**Applying,**L4–**Analyzing, **L5–**Evaluating, **L6–**Creating)

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12.ASSIGNMENTS

ASSIGNMENT :1

1	a)	Explain the Steps taken by Computer Forensics Specialist.
	b)	Discus the Purpose of Computer Forensics
2	a)	Write five rules of Evidences and Explain in Brief.
	b)	Explain the Concept of Digital ID.
3	a)	List and explain the tools used in network forensics.

ASSIGNMENT :2

1	a)	Explain the addressing data-hiding techniques.
2	a)	Explain the validating and testing forensic software.
	b)	Discuss the evaluating computer forensic tool needs.
3	a)	Discuss about a. Virtual Machines b. MS-DOS startup tasks
	b)	Write short notes on a. Microsoft File Structures. b. Microsoft Startup Tasks.