





# Sandip University

Trimbak Road, A/p - Mahiravani, Tal. & Dist. – Nashik, Pin – 422 213  
 Website : <http://www.sandipuniversity.edu.in> Email : [info@sandipuniversity.edu.in](mailto:info@sandipuniversity.edu.in)

Ph: (02594) 222 541 Fax: (02594) 222 555

<b>School: Computing Sciences &amp; Engineering</b>		<b>Programme: BCA(CTIS)</b>		
<b>Department : Computer Sciences &amp; Applications</b>				
<b>Course Code: XCT501</b>	<b>Year : Third Year</b>	<b>Semester - V</b>		
<b>Course: Cloud Technology</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>4</b>	<b>--</b>	<b>--</b>	<b>4</b>
<b>Theory: 4 Hrs/Week</b>	<b>Max. University Theory Examination: 50 Marks</b>			
<b>Max. Time for Theory Exam.: 3 Hrs</b>	<b>Continuous Internal Assessment: 50 Marks</b>			

Course Objectives	
<b>1</b>	To define and understand cloud computing and its importance.
<b>2</b>	To define various cloud service models and services.
<b>3</b>	To understand the concept involved managing cloud infrastructure.
<b>4</b>	To understand SLA and real time applications of cloud.

Course Outcomes	
On successful completion of the course students will be able to:	
<b>1</b>	Understand fundamental of cloud computing.
<b>2</b>	Understand various cloud services and their applications.
<b>3</b>	Analyze risk involved in managing cloud infrastructure.
<b>4</b>	Understand SLA in cloud and various performance metrics of Cloud Technology.

Unit Number	Details	Hours
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<b>1</b>	<b>Fundamentals of Cloud Computing:</b> Cloud Computing Basics – History of Cloud Computing, Need for Cloud computing, Architecture of cloud Computing, Characteristics of Cloud Computing, Advantages and Possible Disadvantages of cloud computing, Different Cloud Service Providers in Market, Cloud Deployment Models – Public, Private, Hybrid, Cloud Security, Cloud Scalability, Time to Market, Cloud Computing Case Studies.	<b>13</b>
<b>2</b>	<b>Cloud Delivery Models and Services:</b> Introduction to Cloud Services, Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as Service (SaaS) – Overview, Virtualization and its benefits, Service Level Agreements and violation, Migrating to the Cloud, Virtual Private Cloud(VPC), Storage and Security in cloud.	<b>12</b>
<b>3</b>	<b>Cloud Platforms:</b> Introducing Cloud Platforms, Evaluating cloud platforms, Cloud Platform technologies – Amazon Web Services, Microsoft Azure, Google Cloud Platform, Salesforce , Impact of Cloud platforms. Private Cloud Platforms – Introducing Private clouds – Microsoft Azure stack, Open stack, Impact of Private clouds.	<b>11</b>
<b>4</b>	<b>Managing the Cloud</b> – Managing and Securing Cloud Services, Virtualization and the Cloud, Managing Desktops and devices on the cloud, SOA and Cloud computing, Managing the Cloud environment, Planning for the Cloud – Economic Cost Model and Leveraging the Cloud, Cloud computing resources, Cloud Dos and Don'ts.	<b>12</b>
<b>5</b>	<b>Cloud SLA and Real Time Applications</b> – Introduction to SLA, Types of SLA, Performance Metrics, MTBF, MTTR, Real time Application- Artificial Intelligence, File storage, Disaster Recovery, Deployment, IT-companies , Business needs.	<b>12</b>
<b>Total</b>		<b>60</b>

## Resources



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<b>Recommended Books</b>	<ol style="list-style-type: none"><li>1. Kirk Hausman, Susan L. Cook, Telmo Sampaio, “ CLOUD ESSENTIALS CompTIA® Authorized Courseware for Exam CLO-001”, John Wiley &amp; Sons Inc., 2013</li><li>2. Judith Hurwitz ,Robin Bloor , Marcia Kaufman , Fern Halper, “Cloud Computing for Dummies”, Wiley Publishing Inc., 2010</li></ol>
<b>Reference Books</b>	<ol style="list-style-type: none"><li>1. Amazon Web Services for Dummies, Bernald Golden, John Wiley &amp; Sons, 2013</li></ol>



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<b>School: Computing Sciences &amp; Engineering</b>		<b>Programme: BCA(CTIS)</b>			
<b>Department : Computer Sciences &amp; Applications</b>		<b>Year : Third Year</b>		<b>Semester - V</b>	
<b>Course Code: XCT502</b>		<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Course: Data Center</b>		<b>4</b>	<b>--</b>	<b>--</b>	<b>4</b>
<b>Theory: 4 Hrs/Week</b>		<b>Max. University Theory Examination: 50 Marks</b>			
<b>Max. Time for Theory Exam.: 3 Hrs</b>		<b>Continuous Internal Assessment: 50 Marks</b>			

Course Objectives	
1	To understand working of data center and its components.
2	To understand importance of data center infrastructure management.
3	To understand Virtualization, Need of Virtualization and Types of Virtualization Technologies.

Course Outcomes	
On successful completion of the course students will be able to:	
1	Learn how an data center operates what are its different components.
2.	Learn different virtualization techniques and their benefits.

Unit Number	Details	Hours
1	<b>Data Center Architecture Overview:</b> Introduction to Data center, Ned of Data center, Data center Architecture, Data center Components, Data Center Design Models-Multi-Tier Model, Server Cluster Model, Challenges in data center, Performance analysis.	13



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2	<b>Data Center Infrastructure Management:</b> Overview of DCIM-Why DCIM, Components of DCIM, Common DCIM Problems, DCIM solution Before and After Scenarios, Benefits of DCIM, Competitive advantages of DCIM.	11
3	<b>Data Center Storage-Area Networking: Data Center Storage Architecture,</b> Storage Device, Types of Storage devices, Access Storage Devices- Block level Protocols, File-Level Protocols, Storage Architecture, Scale-up and Scale-out Storage, Tiered Storage, Fiber Channel , NAS, SAN, Overview of Data Center Unified Fabric, Data Center Bridging and FCoE.	12
4	<b>Data Center Network Services:</b> Server Load-Balancing Concepts, What Is Server Load Balancing, Benefits of Server Load Balancing, Methods of Server Load Balancing, Server Health Monitoring.	11
5	<b>Data Center Server Virtualization: Server Virtualization Solutions,</b> Server Virtualization Components- Hypervisor, Virtual Machines, Virtual Switching, Types of Server Virtualization- Full Virtualization, Para-virtualization, Operating System Virtualization, Virtualization Benefits and Challenges.	10
<b>Total</b>		<b>57</b>

Resources	
<b>Recommended Books</b>	3. CCNA Data Center DCICT 200-155 Official Cert Guide ( Navaid Shamsee, David Klebanov, Hesham Fayed, Ahmed Afrose, Ozden Karakok) 4. An Introduction data center infrastructure management, 2010 Raritan Inc.
<b>Reference Books</b>	1. CCNA Data Center - Introducing Cisco Data Center Networking Study , Todd Lammle and John Swartz



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<b>School: Computing Sciences &amp; Engineering</b> <b>Department : Computer Sciences &amp; Applications</b>	<b>Programme: BCA(CTIS)</b>			
<b>Course Code: XCT503</b>	<b>Year : Third Year</b>		<b>Semester - V</b>	
<b>Course: Cloud Computing Solutions</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>4</b>	<b>--</b>	<b>--</b>	<b>4</b>
<b>Theory: 4 Hrs/Week</b>	<b>Max. University Theory Examination: 50 Marks</b>			
<b>Max. Time for Theory Exam.: 3 Hrs</b>	<b>Continuous Internal Assessment: 50 Marks</b>			

Course Objectives	
<b>1</b>	To define and understand cloud computing and its importance.
<b>2</b>	To understand computing power of cloud.
<b>3</b>	To understand the concept and risk involved in data migration in cloud.
<b>4</b>	To design fault tolerant, scalable cloud architecture.

Course Outcomes	
On successful completion of the course students will be able to:	
<b>1</b>	Understand fundamental of cloud computing and application of cloud computing.
<b>2</b>	Understand various computing resources in cloud environment.
<b>3</b>	Analyze risk involved in data migration and disaster recovery.
<b>4</b>	Design fault tolerant scalable cloud architecture for application.

Unit Number	Details	Hours
<b>1</b>	<b>Introduction of Cloud Computing Solution:</b> Overview of cloud computing Architecture, Overview of Different Cloud Service Providers in Market and Cloud Deployment Models – Public, Private, Hybrid, Cloud Resources, <b>Cloud Computing Solution-</b> Cloud Scalability, Identity access management in cloud , Access policies in Cloud, Monitoring of resources Cloud Computing Case Studies.	<b>14</b>



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2	<b>Computation in Cloud :</b> Webserver Instances in Cloud, Load balancer in cloud, Type of Load balancer, Storages in cloud, Types of storages in cloud- Object based storage, Block based storage, Data Life Cycle management in cloud , Database in cloud.	12
3	<b>Cloud Platforms and their comparison:</b> Introducing Cloud Platforms, Evaluating cloud platforms, Cloud Platform technologies and Comparisons – Amazon Web Services Microsoft Azure-, Google Cloud Platform (Pricing, Security, Computing power, performance, reliability, cost efficiency )	10
4	<b>Cloud Migration and disaster recovery:</b> Introduction to Data Migration, Broad Approaches to Migrating into the Cloud, The Seven-Step Model of Migration into a Cloud, Efficient Steps for migrating to cloud., Risks: Measuring and assessment of risks, Company concerns Risk Mitigation methodology for Cloud computing, Cloud for disaster recovery, Case Studies on migrating to cloud.	12
5	<b>Managing and Designing Scalable Cloud Solution Architecture</b> Legal Issues in cloud Architecture, SLA in cloud computing, Privacy and Security issues in cloud architecture, Best practices of Designing Scalable cloud Architecture, Managing and Securing Cloud Services, Managing Desktops and devices on the cloud, Case Studies on designing scalable fault tolerant cloud architecture.	12
<b>Total</b>		<b>60</b>

### Resources

<b>Recommended Books</b>	<ol style="list-style-type: none"> <li>1. Cloud Computing: Principles and Paradigms, Rajkumar Buyya, James Broberg, Andrzej M. Goscinski,, John Wiley and Sons Publications, 2011</li> <li>2. Brief Guide to Cloud Computing, Christopher Barnett, Constable &amp; Robinson Limited, 2010</li> </ol>
<b>Reference Books</b>	<ol style="list-style-type: none"> <li>2. Amazon Web Services for Dummies, Bernald Golden, John Wiley &amp; Sons, 2013</li> </ol>





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<b>School: Computing Sciences &amp; Engineering</b> <b>Department : Computer Sciences &amp; Applications</b>		<b>Programme: BCA-CTIS</b>		
<b>Course Code: XCT504</b>	<b>Year Third Year</b>	<b>Semester - V</b>		
<b>Course: Cyber Forensics</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>4</b>	<b>--</b>	<b>--</b>	<b>4</b>
<b>Theory: 4 Hrs/Week</b>	<b>Max. University Theory Examination: 50 Marks</b>			
<b>Max. Time for Theory Exam.: 3 Hrs</b>	<b>Continuous Internal Assessment: 50 Marks</b>			

Course Objectives	
1	Discuss the security issues network layer and transport layer.
2	Apply security principles in the application layer.
3	Explain computer forensics.
4	Use forensics tools.
5	Analyze and validate forensics data.

Course Outcome	
On successful completion of the course students will be able to:	
1	Understand the security issues network layer and transport layer.
2	Understand the security principles in the application layer.
3	Learn the concept computer forensics.
4	Learn to use forensics tools.
5	Understand to validate forensics data.



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Unit Number	Details	Hours
1	<b>Network Layer Security &amp; Transport Layer Security:</b> IPSec Protocol – IP Authentication Header – IP ESP – Key Management Protocol for IPSec. Transport layer Security: SSL protocol, Cryptographic Computations – TLS Protocol.	12
2	<b>Email security and firewall:</b> PGP S/MIME – Internet Firewalls for Trusted System: Roles of Firewalls – Firewall related terminology- Types of Firewalls – Firewall designs – SET for E-Commerce Transactions.	10
3	<b>Introduction to Computer Forensics:</b> 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.	14
4	<b>Evidence collection and Forensics Tools:</b> Processing Crime and Incident Scenes – Working with Windows and DOS Systems. Current Computer Forensics Tools: Software/ Hardware Tools.	10
5	<b>Analysis and Validation:</b> Validating Forensics Data – Data Hiding Techniques – Performing Remote Acquisition – Network Forensics – Email Investigations – Cell Phone and Mobile Devices Forensics, Case studies.	12
<b>Total</b>		<b>58</b>



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<b>Resources</b>	
<b>Recommended Books</b>	Man Young Rhee, “Internet Security: Cryptographic Principles”, “Algorithms and Protocols”, Wiley Publications, 2003. Nelson, Phillips, Enfinger, Steuart, “Computer Forensics and Investigations”, Cengage Learning, India Edition, 2008.
<b>Reference Books</b>	John R.Vacca, “Computer Forensics”, Cengage Learning, 2005 Richard E.Smith, “Internet Cryptography”, 3rd Edition Pearson Education, 2008. Marjie T.Britz, “Computer Forensics and Cyber Crime”: An Introduction”, 3rd Edition, Prentice Hall, 2013.



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<b>School: Computing Sciences &amp; Engineering</b> <b>Department : Computer Sciences &amp; Applications</b>	<b>Programme: BCA(CTIS)</b>			
<b>Course Code: XCT505</b>	<b>Year : Third Year</b>		<b>Semester - V</b>	
<b>Course: Ethical Hacking</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	<b>4</b>	<b>--</b>	<b>--</b>	<b>4</b>
<b>Theory: 4Hrs/Week</b>	<b>Max. University Theory Examination: 50 Marks</b>			
<b>Max. Time for Theory Exam.: 3 Hrs</b>	<b>Continuous Internal Assessment: 50 Marks</b>			

Course Objectives	
<b>1</b>	To understand how ethical hacking is used as a method to prevent hacking
<b>2</b>	To make it possible for students to learn the process of identifying vulnerabilities and exploits of the technological ecosystem comprising of various hardware, software, network, OS and applications and identify suitable countermeasures.
<b>3</b>	To facilitate students, appreciate the need for understanding non-technology aspects of ethical hacking such as legal frameworks, documentation and report writing.

Course Outcomes	
On successful completion of the course students will be able to:	
<b>1</b>	Learn important concepts like vulnerability assessment, ethical hacking and penetration testing,
<b>2</b>	to learn the process of identifying vulnerabilities and exploits of the technological ecosystem

Unit Number	Details	Hours
	<b>Introduction to Ethical Hacking:</b> Ethical Hacking, why is it necessary, scope and limitations, skills required, phases of ethical hacking, tools and techniques, Black Box, Gray Box and White Box techniques.vulnerability assessment, ethical hacking and	<b>10</b>



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1	penetration testing, Reverse engineering, Ethical hacking terminology, Exploit, manual PT, Case Studies on data breaches and cybercrimes involving hacking	
2	<b>Ethical Hacking through Attacks and Exploits:</b> EH methodology, attacks, exploits, Denial of Service, Sniffers, malware, Session Hijacking and ethical hacking of Web Servers and applications, Password Cracking, Key Logger. Hash Injection attack, replay and man-in-the-middle attacks, rainbow table attack, distributed network attack, spoofing, phasing, spyware, rootkits, hiding files, counter measures.	14
3	<b>Web and Network Hacking:</b> Enumeration and scanning, host discovery, type of scanning – TCP SYN, ACK, XMAS & UDP Port scanning, SQL Injection, Social Engineering, Buffer Overflows, Input data validation, physical penetration attacks, Hacking Wireless Networking, Hacking mobile platforms, Windows and Linux Hacking, Evading IDS, Firewalls and Honeypots, DDoS attacks, using metasploit, counter measures.	11
4	<b>Web and Network Hacking:</b> Enumeration and scanning, host discovery, type of scanning – TCP SYN, ACK, XMAS & UDP Port scanning, SQL Injection, Social Engineering, Buffer Overflows, Input data validation, physical penetration attacks, Hacking Wireless Networking, Hacking mobile platforms	13
5	<b>Ethical Hacking and Legal System:</b> Overview of India’s Information Technology Amendment Act 2008 (IT Act 2008), hacker vs cracker, liabilities – civil and penal, cyber theft and IPC sec 378, IT Act 2008 – sections 43, 65 and 66, how to file a complaint of suspected hacking, Case Studies, understanding how hacking is legally dealt with among BRICS countries	12
	<b>Total</b>	<b>60</b>



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## Resources

### Recommended Books

5. Gray Hat Hacking The Ethical Hackers Handbook, 3rd Edition Paperback – 1 Jul 2017 by Allen Harper, Shon Harris, Jonathan Ness, Chris Eagle, McGraw Hill Education; 3 ed (1 July 2017)
6. CEH v9: Certified Ethical Hacker Version 9 Study Guide by Sean-Philip Oriyano, Sybex; Stg edition (17 June 2016)
7. Hacking for Beginners: Ultimate 7 Hour Hacking Course for Beginners. Learn Wireless Hacking, Basic Security, Penetration Testing by Anthony Reynolds, CreateSpace Independent Publishing Platform (10 April 2017)
8. An Ethical Guide To WI-FI Hacking and Security by SwaroopYermalkar, BecomeShakespeare.com; First edition (15 August 2014)
9. Hands-On Ethical Hacking and Network Defense by Michael T. Simpson | Kent Backman | James Corley, Cengage India 1<sup>st</sup> edition (2016)

### Reference Books

1. The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy by Patrick Engebretson, Syngress; 2 edition (12 September 2013)



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<b>School: Computing Sciences &amp; Engineering</b> <b>Department: Computer Sciences &amp; Applications</b>	<b>Programme: BCA (CTIS)</b>			
<b>Course Code: XCT511</b>	<b>Year : Third Year</b>		<b>Semester - V</b>	
<b>Course: Lab Course Based on Cloud Computing Solutions.</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	--	--	4	2
<b>Practical: UG - 4 Hrs/Batch (20 Students)</b>	<b>Practical Examination:: 25 Marks</b>			
	<b>Formative CIA/Term Work: 25 Marks</b>			

Set of Suggested assignment list is provided in 3 groups – A, B, C.

Instructor is suggested to design assignment list by selecting/ designing at least 12 suitable assignments as a study assignments.

1. At least 5 assignments from group A.
2. At least 5 assignments from group B.
3. At least 2 assignments from group C.

Sr. No.	Description
	<b>Group A: (Any SIX Assignments)</b>
1	Create a free tier AWS account and enable cloud monitoring by <ul style="list-style-type: none"> <li>• Set billing alarm for costing.</li> <li>• Set Cloudwatch monitoring when CPU Utilization is above given Threshold.</li> </ul>
2	Create an AWS IAM Role for Network administrator <ul style="list-style-type: none"> <li>• Create a new user add him to a Group.</li> <li>• Create IAM Policies.</li> <li>• Set MFA to secure AWS account.</li> </ul>
3	Create a S3 Bucket in any region to store files and <ol style="list-style-type: none"> <li>a) Manage its access policies.</li> <li>b) Make bucket Public and then Private and observe the changes.</li> </ol>
4	Create Two Buckets in two Different regions and copy file across them (CRR).
5	Create a new S3 Bucket and store objects in it and



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	<p>a) Create and Manage life Cycle of objects stored in s3 bucket.</p> <p>b) Delete the object automatically after certain days.</p>
<b>6</b>	Create a simple HTML page that contains your profile and deploy it using S3.
<b>7</b>	Create a SNS and SQS service for resource utilization monitoring.
	<b>Group B: (Any FOUR Assignments)</b>
<b>8</b>	Create a AWS instance with a) An Amazon AMI Ubuntu running on it. b) Create a Security group for the same. c) Create a Key- value pair for the same d) connect to aws instance.
<b>9</b>	Create a AWS instance with, a) Window server running on it. b) Design security such that its can accessed by RDP. c) Launch it using RDP.
<b>10</b>	Create a Aws instance running Ubuntu on it and a) Install apache tomcat on it. b) Deploy simple HTML page on apache webserver and try to access it. c) Restart the instance and try to access the HTML page.
<b>11</b>	Create a Aws instance running Ubuntu on it and a) Assign a Elastic IP Address it. b) Update exiting packages and Install apache tomcat on it. c) Deploy simple HTML page on apache webserver and try to access it. d) Restart the instance and try to access the HTML page. e) Terminate of AWS instance.





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12	Configure Cloud Front for a website.
	<b>Group C: (Any FOUR Assignments)</b>
13	Create a Aws instance and Configure load balancer for the same for deploying a sample website.
14	Create a simple Amazon VPC by configuring and managing Subnet, Route Tables, ACL and gateways.
15	Troubleshoot the given s3 Bucket to make a webpage deployed on it working and manage create life cycle management rule to move to different storage classes.
16	Create an AWS IAM Role with <b>full access</b> . <ul style="list-style-type: none"><li>• Create a new user add him to a Group.</li><li>• Create IAM Policies.</li><li>• Login to new account and host a simple website.</li><li>• Set MFA to secure AWS account.</li></ul>
17	Troubleshoot the given AWS instance to make website working on it.

### **Note: - Practical/ Oral/ Presentations**

Practical/ Oral/ Presentations shall be conducted and assessed jointly by internal and external examiners. The performance Practical/ Oral/ Presentations shall be assessed by at least one pair of examiner appointed as examiner by the university. The examiners will prepare the mark/ Grade sheet in the format as specified by the university, the authenticated and seal it. Seal enveloped shall be submitted to the head of the department or authorized person.



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<b>School: Computing Sciences &amp; Engineering</b> <b>Department: Computer Sciences &amp; Applications</b>	<b>Programme: BCA (CTIS)</b>			
<b>Course Code: XCT512</b>	<b>Year : Third Year</b>		<b>Semester - V</b>	
<b>Course: Lab Course Based on Ethical Hacking.</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
	--	--	4	2
<b>Practical: UG - 4 Hrs/Batch (20 Students)</b>	<b>Practical Examination:: 25 Marks</b>			
	<b>Formative CIA/Term Work: 25 Marks</b>			

Set of Suggested assignment list is provided in 3 groups – A, B, C.

Instructor is suggested to design assignment list by selecting/ designing at least 12 suitable assignments as a study assignments.

1. At least 5 assignments from group A.
2. At least 5 assignments from group B.
3. At least 2 assignments from group C.

Sr. No.	Description
<b>Group A: (Any SIX Assignments)</b>	
1	Create Passive Reconnaissance using “Who is” and Online tools.
2	Use “Packet creator” tools for creating packet crafting
3	Write a program for Full Scan, Half Open Scan and Stealth scan using “nmap”
4	Write a program for UDP and Ping Scanning using “Advance Lan Scanner” and “Superscan”
5	Write a program for exploiting NetBIOS vulnerability
6	Write a program for Password Revelation from browsers and social networking application.
7	Create a SNS and SQS service for resource utilization monitoring.



## Sandip University

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	<b>Group B: (Any FOUR Assignments)</b>
8	Write a program for creating and Analyzing spoofed emails.
9	Write a program for creating and Analyzing Trojans.
12	Write a program for OS password cracking
13	Write a program for to Phishing techniques.
14	Write a program for troubleshoot the given AWS instance to make webpage working on it.
	<b>Group C: (Any TWO Assignments)</b>
20	Write a program for analyzing Social Engineering Attacks.
21	Write a program to simulate DDOS Attack
22	Write a program to use Metasploit Techniques for Android Hacking

### **Note: - Practical/ Oral/ Presentations**

Practical/ Oral/ Presentations shall be conducted and assessed jointly by internal and external examiners. The performance Practical/ Oral/ Presentations shall be assessed by at least one pair of examiner appointed as examiner by the university. The examiners will prepare the mark/ Grade sheet in the format as specified by the university, the authenticated and seal it. Seal enveloped shall be submitted to the head of the department or authorized person.



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School: Computing Sciences and Engineering		Programme: BCA-CTIS			
Dept: Computer Science & Applications					
Course Code: <b>XCT506</b>		Year : Third Year		Semester - V	
Course: <b>Professional Skills</b>	L	T	P	C	
	2	--	--	--	
Theory: <b>2 Hrs/Week</b>		Max. University Theory Examination: --			
Max. Time for Theory Exam.: --		Continuous Internal Assessment: --			

Objectives	
1	To develop inter personal skills and be an effective goal oriented team player.
2	To develop professionals with idealistic, practical and moral values.
3	To develop communication and problem solving skills.
4	To re-engineer attitude and understand its influence on behavior

Outcomes	
<b>On the completion of the syllabus:</b>	
1	Students will understand basic and core Human Values,
2	Students will be able to take firm decisions professionally,
3	To develop the project writing and presentation skills of the undergraduate students,
4	The students should be able to act with confidence, should be clear about their own personality, character and future goals.

Unit Number	Details	Hours
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1	<b>Values and self-development</b> –Social values and individual attitudes. Work ethics, Indian vision of humanism. Moral and non- moral valuation. Standards and principles. Value judgments.	<b>8 Hrs</b>
2	<b>Personality and Behavior Development</b> - Soul and Scientific attitude. Positive Thinking. Integrity and discipline. Punctuality, Love and Kindness. Avoid fault Thinking. Free from anger, Dignity of labor.	<b>10 Hrs</b>
3	<b>Leadership Skills</b> – Quality of a leader, Leadership quiz with case study, Knowing your skills and abilities. <b>Group Discussion</b> - Techniques with debate and extempore, Professionalism. Audio Video recording and dialogue sessions on current topics, Economy, Education system, Environment, politics.	<b>08 Hrs</b>
4	<b>Presentation Skills</b> - Various presentation tools, Guidelines of effective presentation, Boredom factors in presentation and how to overcome them, Interactive presentation & presentation as part of a job interview, Art of effective listening.	<b>11 Hrs</b>
5	<b>Interview Skills</b> - How to face an interview board, Proper body posture, Importance of gestures and steps to succeed in interviews. Mock interview in classrooms with presentations. <b>Self-Introduction</b> – Highlighting positive and negative traits, Dealing with people.	<b>08 Hrs</b>
	<b>Total</b>	<b>45</b>



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Resources	
<b>Recommended Books</b>	1. R. S. Nagarajan - <i>Professional Ethics and Human Values</i> , New Age International Publication. 2. M. Govindrajan, S. Nagarajan- <i>Professional Ethics</i> , PHI
<b>Reference Books</b>	S.Dinesh Babu - <i>Human Values and Professional Ethics</i> , VP Publication Yogendra Singh- <i>Human Values and Professional Ethics</i> , AITBS Publishers, India
<b>Web References</b>	<a href="http://niyatigarg.blogspot.in/p/human-values-and-professional-ethics_18.html">http://niyatigarg.blogspot.in/p/human-values-and-professional-ethics_18.html</a> <a href="http://www.inflibnet.ac.in/ojs/index.php/PS/article/view/2895">http://www.inflibnet.ac.in/ojs/index.php/PS/article/view/2895</a>