

Recognized Under 2(f) of UGC Act 1956 Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad.

COURSE FILE

ON

COMPUTER NETWORKS&WEB TECHNOLOGIES LAB

Course Code -CS506PC

III B.Tech I-SEMESTER

A.Y.: 2022-2023

Prepared by

Mrs.M.SRUTHI Assistant Professor

B. Ratia Kaul Computer Science & Engg. Dept. SRI INDU INSTITUTE OF ENGG & TECH. SherigudaM, Ibrahimnainam/M), R.R.Disi-501 10.

Sri Indu Institute of Engineering & Tech Sheriguda(Vill), Ibrahimpatnam R.R. Dist. Telangana-501 510.

Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510. Campus Ph:9640590999, 9347187999, 8096951507. https://siiet.ac.in



Recognized Under 2(f) of UGC Act 1956 Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Academic Year	2022-2023
Course Title	COMPUTER NETWORKS & WEB TECHNOLOGIES LAB
Course Code	CS506PC
Room No	A-206
Name of the lab incharge	Mr.K.JAYAPRAKASH
Course Faculty	Mrs.M.SRUTHI, Assistant Professor

Index of Course File

S. No.	Name of the content
1	Institute vision and mission
2	Department vision and mission /PEO
3	POs /PSOs
4	Course Syllabus with Structure
5	Course Outcomes (CO)
6	Mapping CO with PO/PSO.
7	List of experiments and their CO, PO mapping
8	Time table
9	Model Practical End examination questions
10	Schedule of end practical examinations
11	List of examiners
12	Lab occupancy chart
13	Dos and Don'ts
14	Physical lab floor plan with area in Sq.m
15	Lab manual
16	Lab Attainments

Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510. Campus Ph:9640590999, 9347187999, 8096951507. https://siiet.ac.in



Recognized Under 2(f) of UGC Act 1956 Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

INSTITUTE VISION AND MISSION

Vision:

To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

Mission:

IM1: To offer outcome-based education and enhancement of technical and practical skills.

IM2: To continuous assess of teaching-learning process through institute-industry

collaboration ..

IM3: To be a centre of excellence for innovative and emerging fields in technology

development with state-of-art facilities to faculty and students fraternity.

IM4: To create an enterprising environment to ensure culture, ethics and social responsibility among the stakeholders

B. Ratia Kaul Computer Science & Engg. Dept. SRI INDU INSTITUTE OF ENGG & TECH. Sheriguda(M, Ibrahimnatnam/M), R.R.Disi-501 10.

Main Road Campus Ph: 9040590999, 254/10/222, 002025150/.

Sri Indu Institute of Engineering & Tech Sheriguda(Vill), Ibrahimpatnam is://siiet.ac.in R.R. Dist. Telangana-501 510.



Recognized Under 2(f) of UGC Act 1956 Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DEPARTMENT VISION AND MISSION

Vision:

To become a prominent knowledge hub for learners, strive for educational excellence with innovative and industrial techniques so as to meet the global needs.

Mission:

- **DM1:** To provide ambience that enhances innovations, problem solving skills, leadership qualities, decision making, team-spirit and ethical responsibilities.
- **DM2 :** To impart quality education with professional and personal ethics, so as to meet the challenging technological needs of the industry and society.
- **DM3 :** To provide academic infrastructure and develop linkage with the world class organizations to strengthen industry-academia relationships for learners.
- **DM4 :** To provide and strengthen new concepts of research in the thrust area of Computer Science and Engineering to reach the needs of Government and Society.

B. Ratua Kauld Computer Science & Engg. Dept. SRI INDU INSTITUTE OF ENGG & TECH. SherigudaM, Ibrahimmainam/M), R.R.Disi-501 10

Sri Indu Institute of Engineering & Techas://siiet.ac.in Sheriguda(Vill), Ibrahimpatnam R.R. Dist. Telangana-501 510.

Main Road Campus Pl



Recognized Under 2(f) of UGC Act 1956 Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES

- **PEO1:** To develop trained graduates with strong academic and technical skills of modern computer science and engineering.
- **PEO2:** To promote trained graduates with leadership qualities and the ability to solve real time problems using current techniques and tools in interdisciplinary environment.
- **PEO3:** To motivate the graduates towards lifelong learning through continuing education and professional development.

PROGRAM SPECIFIC OUTCOMES

- **PSO1 : Professional Skills:** To implement computer programs of varying complexity in the areas related to Web Design, Cloud Computing, Network Security and Artificial Intelligence.
- **PSO2: Problem-Solving Skills**: To develop quality products using open ended programming environment.

B. Retra Kaul Computer Science & Engg. Dept. SRI INDU INSTITUTE OF ENGG & TECH. SherigudaM, Ibrahimnatnam/M), R.R.Disi-501 10.

Sri Indu Institute of Engineering & Techos://siiet.ac.in Sheriguda(Vill), Ibrahimpatnam R.R. Dist. Telangana-501 510.

Main Road Campus Pl



Recognized Under 2(f) of UGC Act 1956 Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad.

PROGRAMME OUTCOMES (POs)

- **PO1:** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2: Problem analysis:** Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3: Design/development of solutions:**Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO4:** Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5:** Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- **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: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need 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 multidisciplinary settings.
- **PO10:** Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO12:** Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510. Campus Ph:9640590999, 9347187999, 8096951507. https://siiet.ac.in

JAWAHARLALNEHRUTECHNOLOGICALUNIVERSITYHYDERABAD

B.Tech.in COMPUTER SCIENCE AND ENGINEERING COURSE STRUCTURE & SYLLABUS(R18) ApplicableFrom2018-19Admitted Batch

III YEARISEMESTER

S.No.	Course Code	CourseTitle	L	Т	Ρ	Credits
1	CS501PC	Formal Languages & Automata Theory	3	0	0	3
2	CS502PC	Software Engineering	3	0	0	3
3	CS503PC	Computer Networks	3	0	0	3
4	CS504PC	Web Technologies	3	0	0	3
5		Professional Elective-I	3	0	0	3
6		Professional Elective-II	3	0	0	3
7	CS505PC	Software Engineering Lab	0	0	3	1.5
<mark>8</mark>	CS506PC	Computer Networks & Web Technologies Lab	0	0	<mark>3</mark>	<mark>1.5</mark>
9	EN508HS	Advanced Communication Skills Lab	0	0	2	1
10	*MC510	Intellectual Property Rights	3	0	0	0
		Total Credits	21	0	8	22

III YEARIISEMESTER

S. No.	Course Code	Course Title	L	Т	Ρ	Credits
1	CS601PC	Machine Learning	3	1	0	4
2	CS602PC	Compiler Design	3	1	0	4
3	CS603PC	Design and Analysis of Algorithms	3	1	0	4
4		Professional Elective–III	3	0	0	3
5		Open Elective-I	3	0	0	3
6	CS604PC	Machine Learning Lab	0	0	3	1.5
7	CS605PC	Compiler Design Lab	0	0	3	1.5
8		Professional Elective-III Lab	0	0	2	1
9	*MC609	Environmental Science	3	0	0	0
		Total Credits	18	3	8	22

CS506PC: COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB

III Year B.Tech. CSE I-Sem

Course Objectives

- To understand the working principle of various communication protocols.
- To understand the network simulator environment and visualize a network topology and observe its performance
- To analyze the traffic flow and the contents of protocol frames

Course Outcomes

- Implement data link layer farming methods
- Analyze error detection and error correction codes.
- Implement and analyze routing and congestion issues in network design.
- Implement Encoding and Decoding techniques used in presentation layer
- To be able to work with different network tools

List of Experiments

- 1. Implement the data link layer framing methods such as character, character-stuffing and bit stuffing.
- 2. Write a program to compute CRC code for the polynomials CRC-12, CRC-16 and CRC CCIP
- 3. Develop a simple data link layer that performs the flow control using the sliding window protocol, and loss recovery using the Go-Back-N mechanism.
- 4. Implement Dijsktra's algorithm to compute the shortest path through a network
- 5. Take an example subnet of hosts and obtain a broadcast tree for the subnet.
- 6. Implement distance vector routing algorithm for obtaining routing tables at each node.
- 7. Implement data encryption and data decryption
- 8. Write a program for congestion control using Leaky bucket algorithm.
- 9. Write a program for frame sorting technique used in buffers.
- 10. Wireshark
 - i. Packet Capture Using Wire shark
 - ii. Starting Wire shark
 - iii. Viewing Captured Traffic
 - iv. Analysis and Statistics & Filters.
- 11. How to run Nmap scan
- 12. Operating System Detection using Nmap
- 13. Do the following using NS2 Simulator
 - i. NS2 Simulator-Introduction
 - ii. Simulate to Find the Number of Packets Dropped
 - iii. Simulate to Find the Number of Packets Dropped by TCP/UDP
 - iv. Simulate to Find the Number of Packets Dropped due to Congestion
 - v. Simulate to Compare Data Rate& Throughput.
 - vi. Simulate to Plot Congestion for Different Source/Destination
 - vii. Simulate to Determine the Performance with respect to Transmission of Packets

Web Technologies Experiments

- 1. Write a PHP script to print prime numbers between 1-50.
- 2. PHP script to
 - a. Find the length of a string.
 - b. Count no of words in a string.
 - c. Reverse a string.
 - d. Search for a specific string.

L T P C 0 0 3 1.5

R18 B.Tech. CSE Syllabus

- 3. Write a PHP script to merge two arrays and sort them as numbers, in descending order.
- 4. Write a PHP script that reads data from one file and write into another file.
- 5. Develop static pages (using Only HTML) of an online book store. The pages should resemble: www.amazon.com. The website should consist the following pages.
 - a) Home page
 - b) Registration and user Login
 - c) User Profile Page
 - d) Books catalog
 - e) Shopping Cart
 - f) Payment By credit card
 - g) Order Conformation
- 6. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.
- 7. Create and save an XML document on the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.
- 8. Install TOMCAT web server. Convert the static web pages of assignments 2 into dynamic web pages using servlets and cookies. Hint: Users information (user id, password, credit card number) would be stored in web.xml. Each user should have a separate Shopping Cart.
- Redo the previous task using JSP by converting the static web pages of assignments 2 into dynamic web pages. Create a database with user information and books information. The books catalogue should be dynamically loaded from the database. Follow the MVC architecture while doing the website.

TEXT BOOK:

1. WEB TECHNOLOGIES: A Computer Science Perspective, Jeffrey C. Jackson, Pearson Education

REFERENCE BOOKS:

- 1. Deitel H.M. and Deitel P.J., "Internet and World Wide Web How to program", Pearson International, 2012, 4th Edition.
- 2. J2EE: The complete Reference By James Keogh, McGraw-Hill
- 3. Bai and Ekedhi, The Web Warrior Guide to Web Programming, Thomson
- 4. Paul Dietel and Harvey Deitel," Java How to Program", Prentice Hall of India, 8th Edition
- 5. Web technologies, Black Book, Dreamtech press.
- 6. Gopalan N.P. and Akilandeswari J., "Web Technology", Prentice Hall of India



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

COURSE OUTCOMES

Course: CN&WT (C318)

Class: III – CSE-A - Section

After completing this course, the student will be able to:

C318.1 Analyze and design the data link layer Protocols by analyze error detection and error codes.

(Analysis)

C318.2 Analyze the Performance of Various Communication Protocols using routing Algorithms (Analysis)

C318. 4 Construct the web applications using HTML AND PHP programs. (Analysis)

C318. 5 Create and Develop XML and dynamic web pages using Servlets. (Synthesis)

C318. 6 Design and implement Client-side Scripting by using Java Script and JSP (synthesis)

Mapping of course outcomes with program outcomes:

Medium -2

High -3

Low-1

PO/PSO/ CO	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PSO2
C318.1	2	3	3	-	-	-	-	-	-	-	-	2	-	2
C318.2	2	2	3	-	-	-	-	-	-	-	-	1	-	2
C318.3	3	2	3	-	-	-	-	-	-	-	-	1	-	2
C318.4	2	1	3	-	3	-	-	-	3	-	-	3	2	3
C318.5	3	1	3	-	3	-	-	-	3	-	-	3	2	3
C318.6	1	2	3	-	3	-	-	-	2	-	-	3	2	3
C318	2.16	1.83	3	-	3	-	-	-	2.66	-	-	2.16	3	2.5

C318.3 Compare and implement network design issues and various kind of encryption and decryption Techniques (Application)

SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB

LIST OF EXPERIMENTS AND THEIR CO, PO MAPPING

Wee	Name of the program	СО	PO/PSO	
k no.			РО	PSO
1	Implement the data link layer framing methods such as character, character-stuffing and bit stuffing.	CO1	PO1,PO2,PO3, PO12	PSO2
2	Write a program to compute CRC code for the polynomials CRC-12,CRC-16 and CRC CCIP	CO2	PO1,PO2,PO3, PO12	PSO2
3	Develop a simple data link layer that performs the flow control using the sliding window protocol, and loss recovery using the Go-Back-N mechanism	CO2	PO1,PO2,PO3, PO12	PSO2
4	Implement Dijsktra's algorithm to compute the shortest path through a network	CO1	PO1,PO2,PO3, PO12	PSO2
5	Take an example subnet of hosts and obtain a broadcast tree for the subnet.	CO2	PO1,PO2,PO3, PO12	PSO2
6	Implement distance vector routing algorithm for obtaining routing tables at each node.	CO2	PO1,PO2,PO3, PO12	PSO2
7	implement data encryption and data decryption	CO3	PO1,PO2,PO3,	PSO2

			PO12	
8	Write a program for congestion control using Leaky bucket algorithm.	CO2	PO1,PO2,PO3, PO12	PSO2
9	Write a program for frame sorting technique used in buffers.	CO1	PO1,PO2,PO3, PO12	PSO2
10	Wireshark i. Packet Capture Using Wire shark ii. Starting Wire shark iii. Viewing Captured Traffic iv. Analysis and Statistics & Camp; Filters.	CO3	PO1,PO2,PO3, PO12	PSO2
11	How to run Nmap scan.	CO3	PO1,PO2,PO3, PO12	PSO2
12	Operating System Detection using Nmap.	C02	PO1,PO2,PO3, PO12	PSO2
13	Do the following using NS2 Simulator i. NS2 Simulator-Introduction ii. Simulate to Find the Number of Packets Dropped iii. Simulate to Find the Number of Packets Dropped by TCP/UDP iv. Simulate to Find the Number of Packets Dropped due to Congestion v. Simulate to Compare Data Rate& Throughput. vi. Simulate to Plot Congestion for Different Source/Destination vii. Simulate to Determine the Performance with respect to Transmission of Packets	CO2,CO3	PO1,PO2,PO3, PO12	PSO2

Wee k no.	Name of the program	СО	PO/PSO	
			РО	PSO
1	Write a PHP script to print prime numbers between 1-50.	CO4	P01,PO2,PO3,	PSO1,
			P05,PO9,P012	PS02
2	PHP script toa. Find the length of a string.b. Count no of words in a string.	CO4	P01,PO2,PO3,	PSO1,
	c. Reverse a string.d. Search for a specific string.		P05,PO9,P012	PSO2
3	Write a PHP script to merge two arrays and sort them as numbers, in descending order.	CO4	P01,PO2,PO3,	PSO1,
			P05,PO9,P012	PSO2
4	Write a PHP script that reads data from one file and write into another file.	CO4,CO6	P01,PO2,PO3,	PSO1,
			P05,PO9,P012	PSO2
	Develop static pages (using Only HTML) of an online book store. The pages should resemble: www.amazon.com. The website should consist	C04,C05,C06	P01,PO2,PO3,	PSO1,
	the following pages. a) Home page		P05,PO9,P012	PSO2
5	c) User Profile Paged) Books catalog			
	e) Shopping Cartf) Payment By credit cardg) Order Conformation			
6	Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.	CO4, CO6	P01,PO2,PO3,	PSO1,
			P05,PO9,P012	PSO2
7	Create and save an XML document on the server, which contains 10 users	CO5	P01,PO2,PO3,	PSO1,
	User Id as an input and returns the user details by taking the user information from the XML document.		P05,PO9,P012	PSO2

8	Install TOMCAT web server. Convert the static web pages of assignments 2 into dynamic web pages using servlets and cookies. Hint: Users information (user id, password, credit card r) would be stored in web.xml. Each user should have a separate Shopping Cart.	CO4,CO5	P01,PO2,PO3, P05,PO9,P012	PSO1, PSO2
9	Redo the previous task using JSP by converting the static web pages of assignments 2 into dynamic web pages. Create a database with user information and books information. The bookscatalogueshouldbedynamicallyloadedfr omthedatabase.FollowtheMVCarchitecture while doing the website.	CO4, CO6	P01,PO2,PO3, P05,PO9,P012	PSO1, PSO2



SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY (An Autonomous Institution under UGC) Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

			TIME TABI	LE FOR A.	¥ 2022-23				
Class: III-	B. Tech CSE -A	Se	emester: I	LH. NO:	A-201		w.	E.F:09-09-2022	
Period/	1	2	3	4	1:00-	5	6	7	
Day	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00	1:30	1:30-2:20	2:20-3:10	3:10-4:00	
Monday	WT	CN&W	LAB(BATCH-D/ACS LAB(B)	ATCH-ID		SE	CO	-C/SS/DAA	
Tuesday	DDB	PPL	WT	LIB		FLAT	SE	IPR	
Wednesday	PPL	COUN	DDB	CN		ACS LAB(E	BATCH-I) /SE LA	AB(BATCH-II)	
Thursday	SE	PPL	CN	FLAT		WT	IPR	SPORTS	
Friday	CN	SE	FLAT	DDB	H L	PPL	WT	IPR	
Saturday	FLAT	CN	WT			CN&WT LAP	3(BATCH-II)/SE	LAB(BATCH-I)	
(T) – Tutor Subject Code	ial (concern faculty Subject N) Name	Name of the Faculty		Subject	Subject Name		Name of the Faculty	
CS501PC	Formal Language & A	utomata Theory	Mrs.R.Sravanthi	EN508HS	Advanced Communication Skills Lab		Mrs E Prarthana		
CS502PC	Software Engineering		Mrs P Sowjanya		MC510	Intellectual Property Rights		Mr Sannala Srinivas	
CS503PC	Computer Networks		Dr. Bapathu Gangadhara Obula Reddy			CO-C/SS/DAA/Fundamentals of AI		Mrs.R.Sravanthi	
CS504PC	Web Technologies		Mrs.M Sruthi		Sports	Sports		Mr.K.Veera Kishore	
CS505PC	Software Engineering	Lab	Mrs P Souwjanya / Mrs.R.Sravanthi/ Mr. Jalli A	Anandarao	Internet	Internet		Mrs P Souwjanya	
CS506PC	Computer Networks& Technologies Lab	Web	Dr. Bapathu Gangadhara Obula Reddy / Mrs./M.Sruthi		LIB	Library		Mrs.M Sruthi	
CS515PE	Principal of Programm	ing languages	Mrs.E.Rupa		COUN	Counselling		Mrs.A.Sudha	
CS524PE	Distributed Databases		Mrs.A.Sudha		CS504PC	Web Technologie	25	Mr M Dattatreya Goud(Adjunct)	
Class In-Ch	arge : Mrs P Sowjanya		Mentor 1 : Mrs P Sowjanya			Mentor 2: Mrs.M	M Sruthi	PRINCIPAL	
Class In-C	harge		Computer Ruben SRI INDU INSTITUTI	ce & Engg.	Dept.	Mentor 2: MIS.I	vi Srum	Sri Indu Institute of Engine Sheriguda (Val), Ibreh R DERINCIPAD	

henguda(V), Ibrahimnatham/M) R R Dieu-Sor vo



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Year & Semester: III-I

Subject Name: Computer NetworkS And Web Technologies Lab

Branch: CSE Faculty Name: M.Sruthi

Lab External Question paper

List of Experiments

1. Implement the data link layer framing methods such as character, character-stuffing and bit stuffing.

2. Write a program to compute CRC code for the polynomials CRC-12, CRC-16 and CRC CCIP

3. Develop a simple data link layer that performs the flow control using the sliding window protocol, and loss recovery using the Go-Back-N mechanism.

- 4. Implement Dijsktra's algorithm to compute the shortest path through a network
- 5. Take an example subnet of hosts and obtain a broadcast tree for the subnet.
- 6. Implement distance vector routing algorithm for obtaining routing tables at each node.
- 7. Implement data encryption and data decryption
- 8. Write a program for congestion control using Leaky bucket algorithm.
- 9. Write a program for frame sorting technique used in buffers.
- 10. Wireshark
 - i. Packet Capture Using Wire shark
 - ii. Starting Wire shark
- iii. Viewing Captured Traffic
- iv. Analysis and Statistics & Filters.
- 11. How to run Nmap scan
- 12. Operating System Detection using Nmap
- 13. Do the following using NS2 Simulator
 - i. NS2 Simulator-Introduction
 - ii. Simulate to Find the Number of Packets Dropped
- iii. Simulate to Find the Number of Packets Dropped by TCP/UDP
- iv. Simulate to Find the Number of Packets Dropped due to Congestion
- v. Simulate to Compare Data Rate& Throughput.
- vi. Simulate to Plot Congestion for Different Source/Destination
- vii. Simulate to Determine the Performance with respect to Transmission of Packets

Web Technologies Experiments

1. Write a PHP script to print prime numbers between 1-50.

- 2. PHP script to
- a. Find the length of a string.
- b. Count no of words in a string.
- c. Reverse a string.
- d. Search for a specific string.

3. Write a PHP script to merge two arrays and sort them as numbers, in descending order.

4. Write a PHP script that reads data from one file and write into another file.

5. Develop static pages (using Only HTML) of an online book store. The pages should resemble: www.amazon.com. The website should consist the following pages.

- a. Home page
- b. Registration and user Login
- c. User Profile Page
- d. Books catalog
- e. Shopping Cart
- f. Payment By credit card
- g. Order Conformation

6. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.

7. Create and save an XML document on the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.

8. Install TOMCAT web server. Convert the static web pages of assignments 2 into dynamic web pages using servlets and cookies. Hint: Users information (user id, password, credit card number) would be stored in web.xml. Each user should have a separate Shopping Cart.

9. Redo the previous task using JSP by converting the static web pages of assignments 2 into dynamic web pages. Create a database with user information and books information. The books catalogue should be dynamically loaded from the database. Follow the MVC architecture while doing the website.



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

CN&WT LAB EXTERNAL TIME TABLE

Examination Branch

S.NO	DATE	DAY	BRANCH	SESSION	H.T NO	PHONE NUMBER
1	23/01/2023	MONDAY	CSE-A	FN	20X31A0501 TO 20X31A0560 & 21X35A0501 TO 21X35A0504	63
2	25/01/2023	WEDNESDAY	CSE-B	AN	20X31A0561 TO 20X31A05C0 & 21X35A0506 TO 21X35A0510	65
3	23/01/2023	MONDAY	CSE-C	AN	20X31A05C1 TO 20X31A05H4 & 21X35A0511 TO 21X35A0517	56

B. Return Kauld Computer Science & Engg, Dept. SRI INDU INSTITUTE OF ERIGG & TECH.

PRINCIPAL

Sri Indu Institute of Engineering & Tech Sheriguda(Vill), Ibrahimpatnam R.R. Dist. Telangana-501 510.



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

CN&WT LAB EXTERNAL TIME TABLE WITH EXAMINER

A.Y:2022-2023

SEM-I

		SRI	INDU II LABE DE	NSTITU XTERNAL PARTMEN UNGS FN	EXAMINATION TOF COMPUTE TREED AM TO	ONS TIME TABLE, JAN- TER SCIENCE & ENGINI 12:30 PM AN: 1:30PM TO	2023 (I SEM) ERING) 4:00PM		
5.NO	YEAR/ SEC	NAME OF THE LAB	DATE	SESSION	LOCATION	NAME OF THE INTERNAL EXAMINER	PHONE. NUMBER	NAME OF THE EXTERNAL EXAMINER	PRONE
1		CN&WT LAB	23/01/2023	FN	LAB NO:7,8	Mrs.M.Sruthi	9177520098	Dr.Vecromollu	9959110038
2	CSE-A	SE LAB	24/01/2023	٨N	LAB NO:8,9	Mrs.P.Soujanya	9966213688	Mrs.V.Swathi	7337228850
5	ma	SE LAB	24/01/2023	FN	LAB NO:8,9	Ms.S.Anitha	9000003453	Mr.MD.Sirajul	9963828634
6	CSE-B	CN&WT LAB	25/01/2023	AN	LAB NO:7.8	Mr.J.Anad Rao	9000992911	Mrs B.Mamatha	7702644268
7	mt	CN&WT LAB	23/01/2023	AN	LAB NO:7,8	Mr.A.Vijay Kumar	9000992911	Dr. Veeramallu	9959110038
8	CSE-C	SE LAB	24/01/2023	FN	LAB NO:4.5	Mrs.P.Swathi	9701240138	Mrs.V,Swathi	7337228850

B. Ratia Kanol HOD

PRINCIPAL PRINCIPAL

Skindu instate of Engineering & Teor. Shenguda(Vili), Ibrahimpatham 2 R. Dist. Telangane -501 510

Computer Science & Engg. Dept/ SRI INDU INSTITUTE OF ENGG & TECH. Stergudary, exhimation (VI, R.R.Del-Sol 10



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

LAB OCCUPANCY CHART

COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB

ROOM NO: A-206

BLOCK: A

FLOOR:2

Period/	1	2	3	4	- 1:00- 1:30	5	6	7
Day	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00		1:30-2:20	2:20-3:10	3:10-4:00
Monday		CN&WT LAB(BATCH-I)-A				LAI	3 MAINTENANC	E
Tuesday					L			
Wednesday		CN&	WT LAB(BAT(CH-I)-C				
Thursday		LA	AB MAINTENA	NCE	C N	CN&V	VT LAB(BATCH-	·I)-B
Friday		CN&	WT LAB(BATC	CH-II)-B	Η	CN&V	VT LAB(BATCH-	·I)-C
Saturday						CN&W	T LAB(BATCH-	II)-A

B. Ratia Kaul Computer Science & Engg. Depi. SRI INDU INSTITUTE OF ENGG & TECH. Sheriguda(V), Ibrahimnatnam/M), R.R.Dist-501 1C.

Sri Indu Institute of Engineering & Tech Sheriguda(Vill), Ibrahimpatnam R.R. Dist. Telangana-501 510.



SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB

Do's and Don'ts

Do's

- 1. Come with completed observation and record.
- 2. Remove your shoes or wear foot socks before you enter the lab.
- 3. Always keep quiet. Be considerate to other lab users.
- 4. Report any problems with the computer to the person in charge.
- 5. Shut down the computer properly.
- 6. Wear ID card before entering into the lab.
- Read and understand how to carry out an activity thoroughly before coming to the laboratory.
- 8. Write In time, Out time and system details in the login register

Don'ts

- 1. Do not touch any part of the computer with wet hands.
- 2. Do not change system settings.
- 3. Do not hit the keys on the computer too hard.
- 4. Don't damage, remove, or disconnect any labels, parts, cables or equipment.
- Do not install or download any software or modify or delete any system files on Any lab computers.
- 6. Do not disturb your neighboring students. They may be busy in completing Tasks.
- 7. Do not remove anything from the computer laboratory without permission.
- 8. Do not use pen drives.



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana - 501 510 Website: https://siiet.ac.in/

COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB PHYSICAL LAB-1 FLOOR PLAN **BLOCK:A**

ROOM NO: A-206

FLOOR:2



Lab Area (In. Sft.)= 26.0 X30.12 = 782.39.5ft .

B. Rahra kauf

Head of the Department

LAB In-Charge



Accredited by NAAC with A+ Grade, Recognized under 2(f) of UGC Act 1956 (Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad) Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510 Website: https://siiet.ac.in/

COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB

CN LAB MANUAL LINK:

https://drive.google.com/file/d/1quqRSNdayDrxUUyHbxSqOXgcvEACGF-S/view?usp=sharing

WT LAB MANUAL LINK: https://drive.google.com/file/d/1ko52oixT40oXS1sgAh4y95z_fseFg50m/view?usp=sharing



Department of Computer Science And Engineering

Course Outcome Attainment (Internal Examination-1)

Name of the faculty :	M.SRUTHI	2022-2023	
Branch & Section:	CSE-A	I Internal	
Course Name:	CN&WT LAB	Year/Semester:	III/I

S.No	HT No.	A+A+CD+MG	T+P+C+R	DDE
Max. Marks ==>		5	5	15
1	20X31A0501	5	5	11
2	20X31A0502	4	5	15
3	20X31A0503	5	4	11
4	20X31A0504	4	4	14
5	20X31A0506	3	3	13
6	20X31A0507	4	4	10
7	20X31A0508	4	4	10
8	20X31A0509	3	2	12
9	20X31A0510	4	3	12
10	20X31A0511	3	3	8
11	20X31A0512	5	5	11
12	20X31A0513	4	3	13
13	20X31A0514	4	4	13
14	20X31A0515	5	3	14
15	20X31A0516	4	5	15
16	20X31A0517	4	4	13
17	20X31A0518	4	5	14
18	20X31A0519	3	3	14
19	20X31A0520	3	2	13
20	20X31A0521	4	5	10
21	20X31A0522	5	5	15
22	20X31A0523	5	5	15
23	20X31A0524	5	4	11
24	20X31A0525	4	4	15
25	20X31A0526	3	3	14
26	20X31A0527	4	4	13
27	20X31A0528	5	5	9
28	20X31A0529	5	5	12
29	20X31A0530	4	4	10
30	20X31A0531	5	3	12
31	20X31A0532	4	4	10
32	20X31A0533	4	4	13
33	20X31A0534	3	4	15
34	20X31A0535	5	5	15

35	20X31A0536	4	4	14
36	20X31A0537	5	5	15
37	20X31A0538	4	5	15
38	20X31A0539	5	5	15
39	20X31A0540	3	3	15
40	20X31A0541	3	3	14
41	20X31A0542	5	5	14
42	20X31A0543	5	5	15
43	20X31A0544	5	5	15
44	20X31A0545	4	4	15
45	20X31A0546	5	4	10
46	20X31A0547	5	5	9
47	20X31A0548	5	2	13
48	20X31A0549	5	5	11
49	20X31A0550	3	4	14
50	20X31A0551	5	5	12
51	20X31A0552	5	4	11
52	20X31A0553	3	4	15
53	20X31A0554	4	3	13
54	20X31A0555	5	5	11
55	20X31A0556	4	5	12
56	20X31A0557	5	4	11
57	20X31A0558	4	5	10
58	20X31A0559	5	5	10
59	20X31A0560	5	5	15
60	21X35A0501	2	2	15
61	21X35A0502	5	5	14
62	21X35A0503	5	5	12
63	21X35A0504	5	5	11
Target set by the f	aculty / HoD	3.00	3.00	9.00
Number of students performed above the target		62	59	51
Number of students attempted		63	63	51
Percentage of stud	ents scored more	98%	94%	100%

CO Mapping with Exam Questions:

CO - 1	у	у	Y
CO - 2	у	у	Y
CO - 3	у	у	Y
CO - 4	у	у	Y
CO - 5	у	у	Y
CO - 6	у	у	Y

CO Attainment based on Exam Questions:

CO - 1	98%	98%	100%
CO - 2	98%	94%	100%
CO - 3	98%	94%	100%
CO - 4	98%	94%	100%
CO - 5	98%	94%	100%
CO - 6	98%	94%	100%

СО	Intrnal practical	DDE	OveralI	Level
CO-1	98%	100%	99%	3
CO-2	96%	100%	98%	3
CO-3	96%	100%	98%	3
CO-4	96%	100%	98%	3
CO-5	96%	100%	98%	3
CO-6	96%	100%	98%	3

Attainment Level				
1	40%			
2	50%			
3	60%			

3

Attainment (Internal 1	Examination) =
------------------------	----------------



Department of Computer Science And Engineering

Course Outcome Attainment (Internal Examination-2)

Name of the faculty :	M.SRUTHI	2022-2023	
Branch & Section:	CSE-A	II Internal	
Course Name:	CN&WT LAB	Semester:	Ι

S.No	HT No.	A+A+CD+MG	T+P+C+R	DDE
Max. Marks		_	-	15
==>	203/21 4 0501	5	5	15
<u>l</u>	20X31A0501	5	5	11
2	20X31A0502	4	5	15
3	20X31A0503	5	4	11
4	20X31A0504	4	4	14
5	20X31A0506	3	3	13
6	20X31A0507	4	4	10
7	20X31A0508	4	4	10
8	20X31A0509	3	2	12
9	20X31A0510	4	3	12
10	20X31A0511	3	3	8
11	20X31A0512	5	5	11
12	20X31A0513	4	3	13
13	20X31A0514	4	4	13
14	20X31A0515	5	3	14
15	20X31A0516	4	5	15
16	20X31A0517	4	4	13
17	20X31A0518	4	5	14
18	20X31A0519	3	3	14
19	20X31A0520	3	2	13
20	20X31A0521	4	5	10
21	20X31A0522	5	5	15
22	20X31A0523	5	5	15
23	20X31A0524	5	4	11
24	20X31A0525	4	4	15
25	20X31A0526	3	3	14
26	20X31A0527	4	4	13
27	20X31A0528	5	5	9
28	20X31A0529	5	5	12
29	20X31A0530	4	4	10
30	20X31A0531	5	3	12
31	20X31A0532	4	4	10
32	20X31A0533	4	4	13
33	20X31A0534	3	4	15

34	20X31A0535	5	5	15
35	20X31A0536	4	4	14
36	20X31A0537	5	5	15
37	20X31A0538	4	5	15
38	20X31A0539	5	5	15
39	20X31A0540	3	3	15
40	20X31A0541	3	3	14
41	20X31A0542	5	5	14
42	20X31A0543	5	5	15
43	20X31A0544	5	5	15
44	20X31A0545	4	4	15
45	20X31A0546	5	4	10
46	20X31A0547	5	5	9
47	20X31A0548	5	2	13
48	20X31A0549	5	5	11
49	20X31A0550	3	4	14
50	20X31A0551	5	5	12
51	20X31A0552	5	4	11
52	20X31A0553	3	4	15
53	20X31A0554	4	3	13
54	20X31A0555	5	5	11
55	20X31A0556	4	5	12
56	20X31A0557	5	4	11
57	20X31A0558	4	5	10
58	20X31A0559	5	5	10
59	20X31A0560	5	5	15
60	21X35A0501	2	2	15
61	21X35A0502	5	5	14
62	21X35A0503	5	5	12
63	21X35A0504	5	5	11
Target set by the	faculty / HoD	3.00	3.00	9.00
Number of students performed above the target		62	59	62
Number of students attempted		63	63	63
Percentage of stu target	idents scored more than	98%	94%	98%

<u>CO Mapping with Exam Questions:</u>

CO - 1	У	У	Y
CO - 2	У	У	Y
CO - 3	У	У	Y
CO - 4	У	У	Y
CO - 5	У	У	Y
CO - 6	У	У	Y

CO Attainment based on Exam Questions:

CO - 1	98%	98%	98%
CO - 2	98%	94%	98%
CO - 3	98%	94%	98%
CO - 4	98%	94%	98%
CO - 5	98%	94%	98%
CO - 6	98%	94%	98%

СО	Intrnal practical	DDE	OveralI	Level
CO-1	98%	98%	98%	3
CO-2	96%	98%	97%	3
CO-3	96%	98%	97%	3
CO-4	96%	98%	97%	3
CO-5	96%	98%	97%	3
CO-6	96%	98%	97%	3

Attainment Level							
1	40%						
2	50%						
3	60%						

3

Attainment (Internal 2 Examination) =



Department of Computer Science And Engineering

Course Outcome Attainment (University Examinations)

Name of	of the faculty :	M.SRUTHI		Academic Year:		2022-2023	
Branch	& Section:	CSE-A		Year / Semester:		III/I	
Course	Name:	CN&WT LAB					
S.No	Roll Number	Marks Secured		S.No	Roll Number	Marks Secured	
1	20X31A0501	68		35	20X31A0536	72	
2	20X31A0502	73		36	20X31A0537	74	
3	20X31A0503	68		37	20X31A0538	73	
4	20X31A0504	70		38	20X31A0539	74	
5	20X31A0506	65		39	20X31A0540	70	
6	20X31A0507	67		40	20X31A0541	69	
7	20X31A0508	69		41	20X31A0542	71	
8	20X31A0509	69		42	20X31A0543	72	
9	20X31A0510	69		43	20X31A0544	72	
10	20X31A0511	65		44	20X31A0545	70	
11	20X31A0512	68		45	20X31A0546	69	
12	20X31A0513	69		46	20X31A0547	68	
13	20X31A0514	68		47	20X31A0548	68	
14	20X31A0515	69		48	20X31A0549	70	
15	20X31A0516	70		49	20X31A0550	69	
16	20X31A0517	69		50	20X31A0551	69	
17	20X31A0518	70		51	20X31A0552	68	
18	20X31A0519	70		52	20X31A0553	69	
19	20X31A0520	68		53	20X31A0554	68	
20	20X31A0521	69		54	20X31A0555	68	
21	20X31A0522	72		55	20X31A0556	67	
22	20X31A0523	72		56	20X31A0557	68	
23	20X31A0524	70		57	20X31A0558	68	
24	20X31A0525	69		58	20X31A0559	65	
25	20X31A0526	68		59	20X31A0560	72	
26	20X31A0527	69		60	21X35A0501	68	
27	20X31A0528	65		61	21X35A0502	72	
28	20X31A0529	69		62	21X35A0503	70	
29	20X31A0530	65		63	21X35A0504	70	
30	20X31A0531	65					
31	20X31A0532	65					
32	20X31A0533	68					
33	20X31A0534	69					
34	20X31A0535	72					
Max Ma	urks	75					
Class Av	verage mark		69		Attainment Level	% students	
Number	of students perfo	rmed above the target	23		1	40%	
Number	of successful stud	dents	63		2	50%	
Percenta	nge of students sco	ored more than target	37%		3	60%	
Attai	nment level		1				



Department of Computer Science And Engineering Course Outcome Attainment

Name of the faculty	: M.SRUTH	II		Academic Year 2022-2023		
Branch & Section:	CSE-A			Examination:	I Internal	
Course Name:	CN&WT L	AB		Year:	III	
				Semester:	Ι	
Course Outcomes	e Outcomes Internal 2nd Internal Interna Exam Exam Exam Exam		Internal Exam	University Exam	Attainment Level	
C01	3.00	3.00	3.00	1.00	2.40	
CO2	3.00	3.00 3.00 3.00 1.00		2.40		
CO3	3.00	3.00	3.00	1.00	2.40	
CO4	3.00	3.00	3.00	1.00	2.40	
C05	3.00	3.00	3.00	1.00	2.40	
CO6	CO6 3.00 3.00 3.00		1.00	2.40		
Inte	rnal & Univ	ersity Attainment:	3.00	1.00		
		Weightage	70%	30%		
CO Attainment for th	ne course (In	ternal, University)	2.10	0.30		
CO Attainment for	r the course	(Direct Method)		2.40		

Overall course attainment level 2.40



Department of Computer Science And Engineering <u>Program Outcome Attainment (from Course)</u>

Name of Faculty:	M.SRUTHI	Academic Year:	2022-2023
Branch & Section:	CSE-A	Year:	Ш
Course Name:	CN&WT LAB	Semester:	I

CO-PO mapping

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PSO2
CO1	2	3	3	-	-	-	-	-	-	-	-	2	-	2
CO2	2	2	3	-	-	-	-	-	-	-	-	1	-	2
CO3	3	2	3	-	-	-	-	-	-	-	-	1	-	2
CO4	2	1	3	-	3	-	-	-	3	-	-	3	2	3
CO5	3	1	3	-	3	-	-	-	3	-	-	3	2	3
CO6	1	2	3	-	3	-	-	-	2	-	-	3	2	3
Course	2.17	1.83	3.00		3.00				2.67				2.00	2.50

со	Course Outcome Attainment								
	2.40								
CO1									
	2.40								
CO2									
	2.40								
СОЗ									
	2.40								
CO4									
	2.40								
CO5									
CO6	2.40								
Overall course attainment lev	el 2.40								

PO-ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO Attainma														
nt	1.73	1.47	2.40		2.40				2.13				1.60	2.00

CO contribution to PO - 33%, 67%, 100% (Level 1/2/3)