



Sri Indu

College of Engineering & Technology

UGC Autonomous Institution

Recognized under 2(f) & 12(B) of UGC Act 1956,
NAAC, Approved by AICTE &
Permanently Affiliated to JNTUH



NAAC
NATIONAL ASSESSMENT AND
ACCREDITATION COUNCIL



HANDOUT

III Year AI&DS-Semester-I

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

ACADEMIC YEAR 2025-26

**DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND
DATA SCIENCE**

HANDOUT- INDEX

S. No	Contents
1	Vision, Mission, PEOs, PSOs,POs& Cos
2	Institution Academic Calendar
3	Department Academic Calendar
4	Subject wise
i)	Syllabus Copy
ii)	Lesson Plan
iii)	Question Bank
iv)	End Examination Questions (Previous Academic Year)
v)	Mid-1 & Mid-2 Questions (Previous Academic Year)
Vi)	Handwritten Notes



SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

B. TECH –COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

INSTITUTION VISION.

To be a premier institution in engineering & technology and management for competency, values and social consciousness

INSTITUTION MISSION

IM1 Provide high quality academic programs, training activities and research facilities.

IM2 Promote Continuous Industry-Institute interaction for employability, Entrepreneurship, leadership and research aptitude among stakeholders.

IM3 Contribute to the economic and technological development of the region, state and nation.

DEPARTMENT VISION

To produce competent professionals recognized for excellence, innovation and societal relevance by impacting their knowledge of Artificial Intelligence and Data Science.

DEPARTMENT MISSION

The Department has following Missions:

DM1 To produce industry-ready professionals and leverage Artificial Intelligence and Data science innovative models for automation, effective decision-making, and competitive advantage.

DM2 To develop state-of-the-art of academic and infrastructural services with modern learning Resources to produce self-sustainable professionals..

DM3 To inculcate the prominence of higher studies, research and entrepreneurship to pursue global standards.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Comply with the contemporary trends and best practices of industry and research standards of Artificial Intelligence and Data Science.

PEO2: Develop Artificial Intelligence and Data Science based solutions to address diverse needs of the community for improving the quality of life and environment

PEO3: To produce creative and technically strong engineers with research pioneering solutions to meet global challenges

PEO4: Inculcate values of professional ethics, social concerns, environment protection and life-long learning.

PROGRAM 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 analyze 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 modeling 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.

COs MAPPING WITH POs & PSOs

SOFTWARE TESTING METHODOLOGIES (R20CSE3231)

C321.1.	Summarize a range of different software testing techniques and strategies for testing projects. (Understand)
C321.2.	List the characteristics of Dataflow, transaction flow testing and Domain testing methods. (Remember)

C321.3.	Categorize path products, expressions. (Analyze).
C321.4.	Develop and apply testing strategies for software applications (Create).
C321.5.	Evaluate various test cases for control flow and transaction flow graphs (Evaluate).
C321.6.	Illustrate appropriate software testing tools and techniques (Apply)

Course Articulation Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C322.1	3	3	-	-	-	-	-	-	-	-	3	2	2	3	-
C322.2	3	3	-	2	-	-	-	-	-	-	2	2	1	3	-
C322.3	3	2	2	3	3	-	-	2	-	-	3	3	3	3	-
C322.4	3	3	-	-	-	-	-	-	-	-	2	2	1	2	-
C322.5	3	3	-	2	-	-	-	-	-	-	3	2	2	3	-
C322.6	3	3	3	2	3	-	-	-	-	-	3	3	3	3	-
	3	2.8	2.5	2.2	3			2			2.7	2.3	2	2.8	-



Lr.No.SICET/AUTO/DAE/III B.Tech Academic Calendar/29/2025

B.TECH III-YEAR I-SEM & II-SEM ACADEMIC CALENDAR
(FOR ACADEMIC YEAR : 2025-26)

Academic Calendar for B.Tech – IIIrd Year Students (2023 - 24 Batch), BR-22 Regulation.

I – Semester

S.No.	EVENT	PERIOD	DURATION
1.	Commencement of class work.	14.07.2025 (Monday)	
2.	1 st Spell of Instructions for covering First Two and a half Units.	14.07.2025 – 13.09.2025	9 Weeks
3.	CRT Classes	15.09.2025 – 07.10.2025	2 Weeks 2 Days
4.	I Mid Term Examinations.	08.10.2025 – 10.10.2025	3 Days
5.	Submission of I Mid Term Examination Marks.	16.10.2025	
6.	2 nd Spell of Instructions for Remaining Two and a half Units.	13.10.2025 – 13.12.2025	9 Weeks
7.	II Mid Term Examinations.	15.12.2025 – 17.12.2025	3 Days
8.	Preparation Holidays and Practical Examinations	18.12.2025 – 27.12.2025	1 Week
9.	Submission of II Mid Term Examination Marks.	23.12.2025	
10.	I Semester End Examinations.	29.12.2025 – 10.01.2026	2 Weeks
Commencement of Class-Work for III B.Tech - II Semester 19.01.2026			

Note: No of Working/instructional days : 90

II – Semester

S.No.	EVENT	PERIOD	DURATION
1.	Commencement of class work.	19.01.2026 (Monday)	
2.	1 st Spell of Instructions for covering First Two and a half Units.	19.01.2026 – 14.03.2026	8 Weeks
3.	I Mid Term Examinations.	16.03.2026 – 18.03.2026	3 Days
4.	Submission of I Mid Term Examination Marks.	24.03.2026	
5.	2 nd Spell of Instructions for Remaining Two and a half Units.	20.03.2026 – 09.05.2026	7 Weeks
6.	Continuation of remaining 2 nd Spell of Instructions	25.05.2026 – 10.06.2026	2 Weeks
7.	II Mid Term Examinations.	11.06.2026 – 13.06.2026	3 Days
8.	Preparation Holidays and Project Evaluation.	15.06.2026 – 20.06.2026	1 Week
9.	Submission of II Mid Term Examination Marks.	18.06.2026	
10.	II Semester End Examinations	22.06.2026 – 04.07.2026	2 Weeks

Note: No of Working/instructional days : 93

ACE

CE

DIRECTOR

PRINCIPAL

Controller of Examination
Sri Indu College of Engineering & Technology
(An Autonomous Institution Under UGC)
Sheriguda (V), Ibrahimpatnam, R.R. Dist-501510

DIRECTOR
Sri Indu College of Engineering & Technology
(An Autonomous Institution Under UGC)
Sheriguda (V), Ibrahimpatnam, R.R. Dist-501510.

PRINCIPAL
Sri Indu College of Engineering & Technology
(An Autonomous Institution Under UGC)
Sheriguda (V), Ibrahimpatnam, R.R. Dist-501510

Sign:

Dr. M.V.S.S. Giridhar

Prof. of CEA; JNTUH Nominee

Sign:

Dr. T. Venu Gopal

Prof. of CSE; JNTUH Nominee

Sign:

Dr. D. Ramesh

Prof. of CSE; JNTUH Nominee

(Copy to DAP&E and Copy to all the Dept. Heads)

										ns		
SATURDAY	12		9	RAKSHA BANDHAN	13	SECOND SATURDAY	11	SECOND SATURDAY	8	SECOND SATURDAY	13	SECOND SATURDAY
SUNDAY	13	HOLIDAY	10	HOLIDAY	14	HOLIDAY	12	HOLIDAY	9	HOLIDAY	14	HOLIDAY
MONDAY	14	Commencement of Classes (III Yr)	11		15		13	Commencement of Classes (II& III Yr)	10		15	MID EXAM-II (II&III)
TUESDAY	15		12		16		14		11		16	MID EXAM-II (II&III)
WEDNESDAY	16		13	MOU SIGNING CEREMONY	17		15		12		17	MID EXAM-II (II&III)
THURSDAY	17		14		18		16		13		18	
FRIDAY	18		15	INDEPENDENCE DAY	19		17		14		19	
SATURDAY	19		16	JANMASTAMI	20		18		15		20	
SUNDAY	20	HOLIDAY	17	HOLIDAY	21	HOLIDAY	19	HOLIDAY	16	HOLIDAY	21	HOLIDAY
MONDAY	21	BONALU	18		22	BATHUKAMMA CELEBRATIONS	20	DIWALI	17		22	II&III YR PRACTICAL EXAM
TUESDAY	22		19		23		21	DIWALI	18		23	II&III YR PRACTICAL EXAM
WEDNESDAY	23	VENDOR CLASSES (IV YR)	20		24		22		19	MID EXAM-II (IV)	24	II&III YR PRACTICAL EXAM
THURSDAY	24		21		25		23		20	MID EXAM-II (IV)	25	II&III YR PRACTICAL EXAM
FRIDAY	25		22		26		24		21	MID EXAM-II (IV)	26	
SATURDAY	26		23		27		25		22		27	
SUNDAY	27	HOLIDAY	24	HOLIDAY	28	HOLIDAY	26	HOLIDAY	23	HOLIDAY	28	HOLIDAY
MONDAY	28		25		29	DASARA HOLIDAYS	27		24		29	(II&III)I Semester End Examinations
TUESDAY	29		26		30	DASARA HOLIDAYS	28		25	IV YR PRACTICAL EXAM	30	(II&III)I Semester End Examinations
WEDNESDAY	30		27	VINAYAKA CHATHURTHI			29		26	IV YR PRACTICAL EXAM	31	(II&III)I Semester End Examinations
THURSDAY	31		28				30		27			

FRIDAY		29			31		28		
SATURDAY		30					29		
SUNDAY		31	HOLIDAY				30	HOLIDAY	
MONDAY									

CALENDAR INCHARGE

HOD/CSE
DEAN

PRINCIPAL

SYLLABUS COPY

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY (An Autonomous Institution under UGC, New Delhi)

B. Tech. - III Year – I Semester

L	T	P	C
3	0	0	3

(R20CSE2205) Computer Networks

Course Objective:

- To objective of the course is to equip the students with a general overview concepts and fundamentals of computers
- To demonstrate the TCP/IP and OSI models with merits and demerits.
- To explore the various layers of OSI Model.
- To introduce UDP and TCP Models.

Course Outcomes:

- Gain the knowledge of basic computers technology.
- Gain knowledge of the function of the layer in the OSI and TCP/IP reference model
- Obtain the skills of subnetting and routing mechanism
- Familiarity with essential protocols of computer networks and how they can be applied in the network design and implementation

UNIT - I:

Overview of the Internet: Network hardware, network software TCP/IP Protocol Suite: The OSI Model, Internet history standards and administration; Comparison of the OSI and TCP/IP reference model.

Physical Layer: Guided transmission media: twisted pairs, coaxial cables, fiber optics wireless transmission media.

UNIT-II

Data Link Layer - design issues, framing, error detection, and correction Elementary Data Link Layer Protocols: Simplex protocol, A simplex stop and wait for a protocol for error-free channels, a simplex stop wait protocol for noisy channels. Sliding window protocol: A one-bit sliding window protocol, a protocol using Go-back-N, and a protocol using selective repeat, for example data link protocol.

Medium access sub-layer: The channel allocation problem, multiple access protocols:ALOHA, CSMA, Collision free protocols, Wireless LANs, Data Link Layer Switching.

UNIT - III:

Network Layer: Network Layer Design issues, store and forward packet switching connectionless and connection-oriented networks-routing algorithms-optimality principle, shortest path, flooding, Distance Vector Routing, Control to Infinity Problem, Hierarchical Routing, Congestion control algorithms, admission control.

UNIT - IV:

Transport Layer: Services provided to the upper layer's elements of transport protocol-addressing connection establishment, Connection Release, and Crash Recovery. TCP and UDP protocols

UNIT – V:

Application Layer- Introduction, providing services, Applications layer paradigms, Client server model, Standard client-server application-HTTP, FTP, electronic mail, TELNET, DNS, SSH streaming audio and video.

TEXT BOOKS:

1. Data Communications and Networking - Behrouz A. Forouzan, Fifth Edition TMH, 2013.
2. Computer Networks - Andrew S Tanenbaum, 4th Edition, Pearson Education.

REFERENCES BOOKS:

1. An Engineering Approach to Computer Networks - S. Keshav, 2nd Edition, Pearson Education.
2. Understanding communications and Networks, 3rd Edition, W. A. Shay, Cengage Learning.
3. Introduction to Computer Networks and Cyber Security, Chwan-Hwa (John) Wu, J. David Irwin, CRC Press.
4. Computer Networks, L. L. Peterson and B. S. Davie, 4th edition, ELSEVIER.
5. Computer Networking: A Top-Down Approach Featuring the Internet, James F. Kurose, K. W. Ross, 3rd Edition, Pearson Education.

Outcomes:

- Students should be understand and explore the basics of Computer Networks and Various Protocols. He/She will be in a position to understand the World Wide Web concepts.
- Students will be in a position to administrate a network and flow of information further he/she can understand easily the concepts of network security, Mobile, and ad hoc networks.



SRI INDU COLLEGE OF ENGG & TECH

LESSON PLAN

(Regulation :R20)

Department of Computer Science and Engineering

Prepared on

Rev1:

Page: 1 of 5

Sub. Code & Title

R22CSE3112 & Computer Networks

Academic Year: 2025-26

Year/Sem./Section

III/I/C &D

Faculty Name & Designation

MrsT. Tejaswi

Assistant Professor

Unit/ Item No.	Topic (s)	Book Reference	Page (s)		Teaching Methodology	Proposed No. of Periods	Actual Date of Handl ed	CO/RBT
			From	To				
	UNIT - I							
I	Overview, Physical layer and Data link layer					12		
1.1	Introduction to computer network	T1	23	25	Black board	01		CO-1/L2
1.2	Network hardware	T1	39	40	Black board	02		CO-2/L1
1.3	Types of networks and topologies	T1	41	50	Black board	01		CO-1/L2
1.5	Network software	T1	51	63	Black board	01		CO1,2/L2
1.6	OSI model	T1	63	67	Black board	01		CO-2/L1
1.7	TCP/IP Reference models	T1	67	70	Black board	01		CO-2/L2
1.8	Example: Networks: ARPANET, Internet.	T1	76	80	Black board	01		CO-2/L1
1.9	Physical layer: Guided transmission media	T1	115	119	Presentation	01		CO-2/L3
1.10	Twisted pairs, coaxial cable,fibre optics	T1	116	119	Presentation	02		CO-2/L4
1.11	Wireless transmission media	T1	125	129	Black board	02		CO-2/L1
	Review	Signature of the HOD/Coordinator						
Unit/ Item No.	Topic (s)	Book Reference	Page (s)		Teaching Methodology	Proposed No. of Periods	Actual Date of Handl ed	CO/RBT
UNIT -II								
II	DATAK LINK LAYER					09		
2.1	Data link layer:Design issues	T1	214	216	Black board	01		CO-3/L1

2.2	framing	T1	217	219	Black board	01		CO-3/L2
2.3	Elementary data link protocols: simplex protocol	T1	193	195	Blackboard	01		CO-3/L1
2.4	A simplex stop and wait protocol for an error-free and noisy channel.	T1	381	382	Blackboard	01		CO-3/L1
2.5	Sliding Window protocols: A one-bit	T1	379	381	Blackboard	02		CO-3/L1
2.1	Data link layer:Design issues	T1	214	216	Black board	01		CO-3/L1
2.2	framing	T1	217	219	Black board	01		CO-3/L2
	sliding window protocol							
2.6	A protocol using Go-Back-N, selective Repeat	T1	494	502	Black board	01		CO-3/L2
2.7	Medium Access sub layer: The channel allocation problem	T1	494	495	Blackboard	01		CO-2,3/L3
2.8	Multiple access protocols: ALOHA, CSMA	T1	495	501	Blackboard	01		CO-2,3/L3
2.9	Collision free protocols, wireless LANs, Data link layer switching.	T1	495	501	Blackboard	01		CO-2/L3
	Review	Signature of the HOD/Coordinator						
UNIT- III								
III	NETWORK LAYER					09		
3.1	Design issues	T1			Blackboard	01		CO-2/L3
3.2	Routing algorithms: shortest path routing	T1	512	514	Presentation	01		CO-2/L3
3.3	Flooding, Hierarchical routing, Broadcast,Multicast.	T1	516	522	Black board	01		CO-2,3/L1
3.4	Distance vector routing	T1	523	526	Presentation	01		CO-2,3/L1
3.5	Congestion control algorithms	T1	528	530	Black board	01		CO-2/L3
3.6	Quality of service				Black board	01		CO-2,3/L1
3.7	Internet working	T1	532	536	Black board	01		CO-2,3/L2
	Review	Signature of the HOD/Coordinator						
UNIT-IV								
IV	TRANSPORT LAYER					14		
4.1	The network layer in the internet	T1	539	541	Presentation	01		CO-2,3/L3
4.2	Transport layer: Transport service	T1	542	545	Presentation	01		CO4/L1
4.3	Elements of transport protocols	T1	567	572	Black board	01		CO4/L2
4.4	Connection management	T1	578	582	Black board	02		CO4/L2
4.5	TCP protocol	T1	590	592	Black board	01		CO4/L4
4.6	UDP protocol	T1	594	597	Presentation	01		CO4/L1
	Review	Signature of the HOD/Coordinator						
UNIT-V								
V	APPLICATION LAYER					11		
5.1	Application layer	T1	737	741	Presentation	01		CO4/L2
5.2	Domain name system	T1	737	741	Presentation	01		CO3/L2

5.3	SNMP	T1	743	790	Blackboard	01		CO3/L5
5.4	Electronic Mail	T1	743	790	Blackboard	01		CO4/L1
5.5	The World WEB	T1	743	790	Black board	01		CO4/L2
5.6	Application layer services	T1	743	790	Presentation	01		CO4/L2
5.7	Client-server model & application	T1	819	822	Black board	01		CO4/L2
5.8	HTTP, FTP	T1	820	832	Black board	01		CO4/L3
5.9	HTTP, FTP	T1	876	891	Presentation	01		CO-2,3
5.10	Email, TELNET	T1	876	891	Black board	01		CO4/L1
5.11	Streaming audio and vedio	T1	891	904	Black board	01		CO4/L4
	Review	Signature of the HOD/Coordinator						

LIST OF TEXT BOOKS AND REFERENCE:

TEXT BOOK:

1. Computer Networks -- Andrew S Tanenbaum, David. j. Wetherall, 5th Edition. Pearson Education/PHI

REFERENCE BOOKS:

1. An Engineering Approach to Computer Networks-S. Keshav, 2nd Edition, Pearson Education
2. Data Communications and Networking – Behrouz A. Forouzan. Third Edition TMH

WEB LINKS:

<https://www.edx.org/learn/computer-networking>

https://onlinecourses.nptel.ac.in/noc21_cs61/preview

<https://www.edx.org/course/computer-networks>

QUESTION BANK

UNIT-I				
	QUESTION BANK Multiple Choice Questions (Regulation :R22)			Prepared on
	Department of ARTIFICIAL INTELLIGENCE & DATA SCIENCE			Rev1:
	Sub. Code & Title :R22CSE3112/Computer Networks			Pages: 27
	Academic Year: 2025-26	Year/Sem./Section	III B.TECH, I-SEM	
	Faculty Name & Designation Mrs. P. Tejaswini Assistant Professor			
1C-2	What is internet? a) A network of interconnected local area networks b) A collection of unrelated computers c) Interconnection of wide area networks d) A single network			
1C-3	. Which of the following is an example of Bluetooth? a) wide area network b) virtual private network c) local area network d) personal area network			
1C-4	Which of the following computer networks is built on the top of another network? a) overlay network b) prime network c) prior network d) chief network			
1C-5	What is the full form of OSI? a) optical service implementation b) open service Internet c) open system interconnection d) operating system interface			
1C-6	When a collection of various computers appears as a single coherent system to its clients, what is this called? a) mail system b) networking system c) computer network d) distributed system			
1C-7	How many layers are there in the ISO OSI reference model? a) 7 b) 5 c) 4 d) 6			
1C-8	What are nodes in a computer network? a) the computer that routes the data b) the computer that terminates the data c) the computer that originates the data d) all of the mentioned			
1C-9	How is a single channel shared by multiple signals in a computer network? a) multiplexing			

	b) phase modulation c) analog modulation d) digital modulation	
1C-10	Which of the following devices forwards packets between networks by processing the routing information included in the packet? a) firewall b) bridge c) hub d) router	
1C-11	What is the term for an endpoint of an inter-process communication flow across a computer network? a) port b) machine c) socket d) pipe	
1C-12	Which one of the following is not a function of network layer? a) congestion control b) error control c) routing d) inter-networking	
1C-13	Who introduced the concept of parity bits in Hamming codes? a) Richard Hamming b) Claude Shannon c) Alan Turing d) Donald Knuth	
1C-14	Which of the following is not a type of network software? A) Web browsers B) Operating systems C) Word processors D) Firewall software	
1C-15	What is the primary function of a router in a computer network? A) Transmit data between devices within the same network B) Connect devices to the Internet C) Determine the best path for data to travel between networks D) Provide centralized storage for network data	
	Filling The Blank Questions	
1F-1	OSI stands for _____	
1F-2	TCP/IP model does not have _____ layer but OSI model have this layer.	
1F-3	TCP/IP model was developed _____ the OSI model.	
1F-4	Transmission data rate is decided by _____	
1F -	The physical layer is responsible for _____	

5		
1F - 6	The _____ layer of the OSI Model is responsible for establishing, managing, and terminating connections.	
1F - 7	The data link layer is responsible for _____ communication between adjacent nodes over a link.	
1F - 8	Hamming Code is a type of _____ error-correcting code used in digital communication	
1F - 9	_____ is a protocol that allows for the secure transmission of email messages over the internet.	
1F - 10	A _____ is a device that connects multiple network segments together to form a larger network, often used to extend the reach of a LAN	
1F - 11	Fiber optics transmit data using _____.	
1F - 12	The core of a fiber optic cable is typically made of _____.	
1F - 13	Coaxial cables consist of an inner conductor surrounded by a/an _____.	
1F - 14	Coaxial cables offer better _____ than twisted pair cables.	
1F - 15	The purpose of the outer conductor in coaxial cables is to _____.	

Match The Following Questions

1M- 1		1. OSI reference model	i)Allows for multiple packets to be sent before receiving acknowledgments
		2. Data Link Layer	ii)Responsible for addressing, routing and delivering packets across networks
		3. Network Layer	iii)Deals with physical addressing, error detection, and framing of data packets.
		4. Sliding Window Protocol	iv)Facilitates interoperability and communication between different systems.
1M- 2		A. Core	i. Provides mechanical protection to the fiber.
		B. Cladding	ii. Surrounds the core and ensures total internal reflection.
		C. Buffer	iii. Innermost part of the fiber where light travels.
		D. Jacket	iv. Outer protective layer of the fiber cable.

1M-3		A. Application Layer(TCP/IP)	i. Responsible for logical addressing and routing.	
		B. Transport Layer(TCP/IP)	ii. Provides end-to-end communication services for applications.	
		C. Internet Layer(TCP/IP)	iii. Manages data flow and ensures reliability.	
		D. Network Interface Layer(TCP/IP)	iv. Handles physical transmission of data	
1M-4		A. HTTP	i. Application Layer	
		B. TCP	ii. Transport Layer	
		C. IP	iii. Internet Layer	
		D. Ethernet	Network Interface Layer	
1M-5		1. OSI reference model	i)Allows for multiple packets to be sent before receiving acknowledgments	
		2. Data Link Layer	ii)Responsible for addressing, routing and delivering packets across networks	
		3. Network Layer	iii)Deals with physical addressing, error detection, and framing of data packets.	
		4. Sliding Window Protocol	iv)Facilitates interoperability and communication between different systems.	

5 MARKS QUESTIONS

1D-1	Explain in detail about OSI model?
1D-2	Explain in detail about network hardware?
1D-3	Explain TCP/IP reference Model?
1D-4	Explain in detail about network software?
1D-5	Compare OSI models and TCP/IP in detail?
1D-6	Discuss briefly about Guided Transmission Media with diagrams
1D-7	Discuss briefly about wireless transmission?
1D-8	Explain in detail about fiber optics?
1D-9	Explain the concepts of Unguided Transmission media with diagrams?
1D-10	Difference between Guided transmission Media and Unguided transmission media?
1D-11	Define Computer Network? On what basis networks are categorized?
1D-12	Distinguish LAN, MAN & WAN
1D-13	Explain in detail ARPANET

1D-14	Explain Internet
1D-15	What are the uses of Computer Networks
UNIT-II	
Multiple Choice Questions BT Level	
2C-1	Which layer provides the physical layer a) physical layer b) presentation layer c) session layer d) application layer
2C-2.	Which connection type is used for the internet? a) internet society b) internet service c) different computer d) internet architecture
2C-3.	Which of the following is a network protocol? a) SMTP b) HTTP c) FTP d) Telnet
2C-4.	Which of the following is a network layer protocol? a) framing b) error control c) flow control d) channel coding
2C-5.	When 2 or more bits are transmitted, the error is called a) random error b) burst error c) inverted error d) double error
2C-6.	Which of the following is a network layer protocol? a) ethernet b) point to point protocol c) hdlc d) all of the mentioned
2C-7.	Which of the following is a network layer protocol? a) ethernet b) point to point protocol c) hdlc d) all of the mentioned

	a) CSMA/CD b) CSMA/CA c) Both CSMA/CD & CSMA/CA d) HDLC
2C-8.	CRC stands for _____ a) cyclic redundancy check b) code repeat check c) code redundancy check d) cyclic repeat check
2C-9.	The data link layer takes _____ them into frames for transmission. a) network layer b) physical layer c) transport layer d) application layer
2C-10.	Header of a frame generally contains _____ a) synchronization bytes b) addresses c) frame identifier d) all of the mentioned
2C-11.	What is the purpose of using a CSMA/CD? A) To ensure reliable and sequential data transfer. B) To maximize the utilization of the channel. C) To minimize the effects of collisions. D) To synchronize the clocks.
2C-12.	Simplex Stop-and-Wait Protocol In a simplex stop-and-wait protocol, the receiver stops the flow of data until the sender receives an acknowledgment. A) The sender waits for an acknowledgment. B) The receiver stops the flow of data. C) Both sender and receiver wait for an acknowledgment. D) The sender waits indefinitely.
2C-13.	Which of the following best describes CSMA/CD? A) A multiple access protocol. B) A collision detection protocol. C) A reservation-based protocol. D) A random access protocol.
2C-14.	In a sliding window protocol, the window size is determined by _____ A) The maximum number of frames in transit. B) The maximum number of frames in the buffer. C) The size of the physical window. D) The maximum number of frames in the network.
2C-15	Which of the following statements is true for CSMA/CD? A) It is only suitable for half-duplex communication. B) It is immune to errors in the channel. C) It requires bidirectional communication. D) It achieves high throughput without acknowledgments.
	Final Question
2F-1	The data link layer takes _____

	them into frames for tra
2F-2	Header of a frame genei
2F-3	In computer network no
2F-4	A _____ is a dev processing the routing i
2F-5	Network congestion occ
2F-6	In a sliding window protocol that can be sent without rece
2F-7	ALOHA protocol can be c they handle channel access
2F-8	A simplex stop-and-wait pro frame and waits for an acknc
2F-9	In a simplex stop-and-wait pr successful reception of a frame
2F-10	ALOHA is a _____ access whenever they have it withou
2F-11	ALOHA protocol suffers fro to transmit data simultaneously
2F-12	In a sliding window protocol ensure reliable transmission.
2F-13	The sliding window protoc of frames by the receiver.
2F-14	In a simplex stop-and-wait p before sending the next fram
2F-15	In a sliding window protocol, _____ without waiting for ac
	Mat
2M-1	List I
	a) Utopia simple
	b) stop-and-wait
	c) ARQ (Automa reQuest)

		d) Sliding Windo
2M-2		List I
		A. Sliding Wind
		B. Simplex Stop Protocol
		C.It is a basic pr half-duplex cor where data car direction at a ti
2M-3		D. Go-Back-N P
		List I
		A)error detec
		B) Parity bit
		C)Channeliza
		D)Controlled a

2M-4		List I
		A)framing
		B)stop-and-w
		C)error contr
		D)error contr
2M-5		List I
		A)HDLC
		B)collision
		C)one bit slidi protocol
		D)CSMA acce

5 MARKS QUESTIONS

2D-1	Explain about ALOHA and its type?
2D-2	Discuss the working of CSMA protocol along with Persistence Methods diagram?
2D-3	Discuss the working of CSMA/CD protocol
2D-4	Write short notes on collision free protocols.
2D-5	Elaborate CSMA/ CA protocol?
2D-6	Define Error detection in Data link layer. And Explain different Error Detection methodologies
2D-7	Explain Error Correction in Data link layer. And Explain different Error Correction methodologies
2D-8	Describe about MAC sub layer?
2D-9	Describe the working of Spanning tree bridges
2D-10	Describe Data link layer Switching.
2D-11	Why sliding window protocols are designed? Explain different types of Sliding Window Protocols?
2D-12	Discuss all Elementary data link protocols.
2D-13	Judge wireless LAN 's more popular?
2D-14	Explain Structure and Services of Wireless LAN's
2D-15	Explain Physical layer and MAC sub layer protocol of wireless LAN's

Multiple Choice Questions	BT Level
3C-1	The network layer is responsible for a) bits b) frames c) packets a) d) bytes
3C-2	Which one of the following is not a function of the network layer? a) routing b) inter-networking c) congestion control d) error control
3C-3	A 4 byte IP address consists of a) only network address b) only host address c) network address & host address d) network address & MAC address
3C-4	Which of the following is not a routing algorithm? a) shortest path algorithm b) distance vector routing c) link state routing a) d) all of the mentioned
3C-5	Which of the following is not a error detection method? a) Checksum b) Parity c) Cyclic redundancy check a) d) Hamming codes
3C-6	Which of the following is not a error detection method? a) Hamming code b) Checksum c) Parity check a) d) Cyclic redundancy
3C-7	Which one of the following is not a congestion control? a) traffic aware routing b) admission control c) load shedding a) d) routing information
3C-8	ICMP is primarily used for a) error and diagnostic functions b) addressing

		c) forwarding d) routing
3C-9		What is the hammin 1100110? a) 4 b) 5 c) 8 d) 3
3C-10		What is the disadvan error detection and a) Difficult to correc b) Difficult to detect c) High error rate d) Frequent occurrir
3C-11		Which of the following is not a a) Routing b) Error control c) Congestion control d) Interoperability
3C-12		Which routing algorithm is con scalability? a) Dijkstra's algorithm b) Bellman-Ford algorithm c) Distance Vector Routing d) Link State Routing
3C-13		Which of the following is a cha a) Intermediate nodes determ b) Only the source node deter c) Route is determined based d) Route is determined based
3C-14		In which congestion control alg transmission rate until a packet a) Slow Start b) Fast Recovery c) Congestion Avoidance d) Selective Repeat
3C-15		Which algorithm dynamically e maximize throughput and mini a) Leaky Bucket b) Token Bucket c) Sliding Window d) TCP Tahoe
Filling The Blank Questions		
3F-1	There are _____ total features of Frame Relay.	

3F-2	Frame Relay is cheaper than other _____	
3F-3	Most packet switches use this principle _____	
3F-4	A local telephone network is an example of a _____ network.	
3F-5	Multiplexing is used in _____	
3F-6	In network layer design, _____ ensures that data packets are delivered to the correct destination network.	
3F-7	_____ is a routing algorithm that uses distance vectors and hop counts to determine the best path.	
3F-8	The primary goal of congestion control algorithms is to _____.	
3F-9	In network layer design, _____ prevents loops in routing by ensuring that packets follow a predetermined path.	
3F-10	_____ is a routing algorithm that calculates the shortest path based on network topology.	
3F-11	The purpose of Quality of Service (QoS) in network layer design is to _____.	
3F-12	In congestion control algorithms, _____ dynamically adjusts transmission rates based on network congestion levels.	
3F-13	_____ is a network layer design issue concerned with efficiently utilizing available network resources.	
3F-14	_____ is a routing algorithm that employs link-state information to construct a complete graph of the network.	
3F-15	_____ is an important aspect of congestion control algorithms that aims to ensure fair access to network resources for all users.	

Match The Following Questions

3M-1	a) state information in datagram network	i) Route chosen when VC is set up; all packets follow it	
	b) Quality of service in Virtual-circuit network	ii) Each packet is routed independently	
	c) Routing in datagram network	iii) Easy if enough resources can be allocated in advance for each VC	
	d) Routing in Virtual-circuit network	iv) Routers do not hold state information	

3M-2		A. Addressing	i)Ensures reliable delivery of data within the network.		
		B. Routing	ii)Assigns unique identifiers to devices within the network		
		C. Error Control	iii). Determines the path data packets take from source to destination.		
		D. Congestion Control	iv)Manages traffic flow to prevent network congestion.		
3M-3		- a. Distance Vector	i) Sends updates about its own routing table to its neighbors periodically.		
		- b. Link State	ii. Considers only hop counts to make routing decisions.		
		- c. Path Vector	iii. Utilizes a centralized algorithm to calculate the shortest path.		
		- d. Flooding	iv. Broadcasts packets to all neighbors without any pre-existing knowledge of topology.		
3M-4		- a. IP (Internet Protocol)	i. Resolves IP addresses to MAC addresses.		
		- b. ICMP (Internet Control Message Protocol)	ii. Facilitates communication between devices on different networks.		
		- c. ARP (Address Resolution Protocol)	iii. Diagnoses network connectivity		

			issues.		
		- d. DHCP (Dynamic Host Configuration Protocol)	iv. Dynamically assigns IP addresses to devices on a network.		
3M-5		- a. Scalability	i. Ensuring efficient and fair allocation of network resources.		
		- b. Interoperability	ii. Allowing different networks to communicate seamlessly.		
		- c. Security	iii. Protecting data from unauthorized access and malicious attacks.		
		- d. Quality of Service (QoS)	iv. Handling growth in the number of users and network size without performance degradation		

5 MARKS QUESTIONS

3D-1	Elaborate Network layer design issues with neat diagrams?	
3D-2	Explain Shortest path routing algorithm?	
3D-3	Elaborate Routing Algorithm and Classifications?	
3D-4	Demonstrate Flooding	
3D-5	Elaborate Distance Vector Routing with an example?	
3D-6	Write a detailed note on hierarchical routing.	
3D-7	State the importance of Broadcast Routing and Multicast Routing in detail?	
3D-8	Discuss in detail about Optimality principle?	
3D-9	Explain in detail about congestion control algorithms.	
3D-10	Explain Dijkstra's algorithm in detail.	
3D-11	How does Quality of Service (QoS) play a crucial role in modern network architectures? Explain the key components of QoS and their implementation challenges.	
3D-12	Describe the concept of internetworking and its significance in connecting heterogeneous networks. What are the major challenges associated with internetworking, and how are they addressed?	
3D-13	Analyze the principles that drove design of Network layer in the internet	

3D-14	Explain in detail IPv4 and IPv6?	
3D-15	Explain about tunneling? (R16-Nov/Dec-2018)	
3D-16	Elaborate about packet fragmentation?	
3D-17	Discuss in detail about ARP & RARP?	
3D-18	Explain in detail about CIDR & DHCP?	
UNIT IV		
Multiple Choice Questions		
4C-1		Transport layer aggregates stream before passing it a) network layer b) data link layer c) application layer d) physical layer
4C-2		Which of the following a) TCP and FTP b) UDP and HTTP c) TCP and UDP d) HTTP and FTP
4C-3		Which of the following a) Connection-oriented b) Unreliable c) Transport layer protocol d) Low overhead
4C-4		What is the main advantage of UDP? a. More overhead b. Reliable c. Low overhead d. Fast
4C-5		Which of the following is not a function of UDP? a) Error reporting b) Handle addressing conversion c) Datagram format d) Packet handling control
4C-6		Which of the following

	fragmentation? a) Flags b) Offset c) TOS d) Identifier
4C-7	If the value in protocol 1 _____ a) TCP b) UDP c) ICMP d) IGMP
4C-8	Which layer is more he service? a) Transport layer b) Datalink layer c) Application layer d) Network layer
4C-9	Which of the following protocol and user datag a) Process-to-process p b) Connection-oriented c) Does error checking d) Uses port numbers
4C-10	Internet Control Messag compensate _____ a) Error-reporting b) Error-correction c) Host and managemen d) All of the mentioned

4C-11	Which of the following protocols is used for file transfer over a network? a) IP b) TCP c) HTTP d) FTP
4C-12	Which transport layer protocol is connectionless and does not guarantee delivery? a) TCP b) UDP c) HTTP d) ICMP
4C-13	What mechanism does TCP use to ensure reliable data transfer? a) Flow control b) Error detection and correction c) Three-way handshake d) All of the above
4C-14	Which field in the TCP header is used to identify the sequence of bytes received at the receiving end? a) Source Port b) Sequence Number c) Acknowledgment Number d) Checksum
4C-15	What is the primary purpose of a router in a network? a) Routing data packets between networks b) Providing end-to-end communication c) Translating domain names into IP addresses d) Managing network hardware

Filling The Blank Questions		
4F-1	. Header size of the ICMP message is _____	I
4F-2	Multiple processes on destinations at transport layer are identified by _____	I
4F-3	The network layer is concerned with _____ of data.	II
4F-4	In _____ systems, resources are allocated on demand.	II
4F-5	A 4 byte IP address consists of _____	I
4F-6	The primary function of the transport layer is to provide _____ communication between applications.	II
4F-7	The transport layer protocol that provides reliable, connection-oriented service is _____.	I
4F-8	_____ is a transport layer protocol used primarily for low-latency, loss-tolerating connections	II
4F-9	In the TCP three-way handshake process, the three packets exchanged are SYN, SYN-ACK, and _____.	I
4F-10	_____ is a mechanism used by TCP to ensure that data is transmitted accurately and in the correct order	III
4F-11	The _____ field in a TCP header specifies the size of the sender's receive window	IV
4F-12	UDP stands for _____.	III
4F13	The process of breaking a large message into smaller segments at the transport layer is called _____.	IV
4F14	A _____ number is used by the transport layer to identify a specific process or service on a host	III
4F15	The term _____ refers to the dynamic adjustment of the transmission rate based on network conditions, as implemented by TCP.	VI
Match The Following Questions		

4M-1	<table> <tr> <th>List I</th> <th>List II</th> </tr> <tr> <td>a) SOCKET</td> <td>i) Release the connection</td> </tr> <tr> <td>b) BIND</td> <td>ii) Announce willingness to accept connections; give queue size</td> </tr> <tr> <td>c) LISTEN</td> <td>iii) Associate a local address with a socket</td> </tr> <tr> <td>d) CLOSE</td> <td>iv) Create a new communication endpoint</td> </tr> </table>		List I	List II	a) SOCKET	i) Release the connection	b) BIND	ii) Announce willingness to accept connections; give queue size	c) LISTEN	iii) Associate a local address with a socket	d) CLOSE	iv) Create a new communication endpoint	I
	List I	List II											
	a) SOCKET	i) Release the connection											
	b) BIND	ii) Announce willingness to accept connections; give queue size											
	c) LISTEN	iii) Associate a local address with a socket											
d) CLOSE	iv) Create a new communication endpoint												
4M-2	a)Flow control	i)Prevents network congestion	II										
	b)congestion control	ii) . Ensures data is delivered without errors											
	c)error detection	iii) Manages data rate between sender and receiver											
	d)multiplexing	iv) Multiple connections over a single network											
4M-3	a)Reliable delivery	i)SCTP	I										
	b). Connection-oriented	ii) UDP											
	c). Connectionless	iii) TCP											
	d)Streaming support	iv)TCP											
4M-4	a)TCP	i) Real-time data transmission	V										
	b)UDP	ii) Supports multi-streaming											
	c)SCTP	iii) Connectionless											
	d)RTP	iv) Reliable											

4M-5		a)TCP	i) Video conferencing	VI
		b)UDP	ii) Telecommunication signaling	
		c)SCTP	iii) VoIP (Voice over IP)	
		d)RTP	iv) Web browsing	

4D-1	Briefly explain TCP Sliding window?	
4D-2	Explain about UDP?	
4D-3	What is the need for TCP connection establishment and connection release and explain clearly?	
4D-4	Explain in about TCP congestion control.	
4D-5	Analyze the TCP header and explain it.	
4D-6	What is Remote Procedure Call (RPC) and Real-Time Transport Protocol in UDP?	
4D-7	Describe TCP Congestion control.	
4D-8	Explain about upper layer services provided protocol?	
4D-9	Discuss how a connection is established, released in transport layer?	
4D-10	Explain how a crash is recovered in transport layer?	
4D-11	What are the main responsibilities of the transport layer in the OSI model, and how does it differ from the network layer	
4D-12	Explain the concept of multiplexing and de-multiplexing in the context of the transport layer. How do protocols like TCP and UDP handle these processes	
4D-13	Describe the key differences between TCP (Transmission Control Protocol) and UDP (User Datagram Protocol). In what scenarios is each protocol most appropriately used?	
4D-14	How does the transport layer ensure reliable data transmission? Discuss the mechanisms used by TCP for error detection and recovery	
4D-15	Justify the Future of TCP	

UNIT V

Multiple Choice Questions

5C-1	Which is not a applicati a) HTTP b) SMTP c) FTP d) TCP
5C-2	The packet of informat

	a) Packet b) Message c) Segment d) Frame
5C-3	The application-level protocol is called a set of agents is called a) HTML b) TCP c) SNMP d) SNMP/IP
5C-4	DNS database contains a) name server records b) hostname-to-address c) hostname aliases d) all of the mentioned
5C-5	To use a Simple Network a) Servers b) IP c) Protocols d) Rules
5C-6	FTP is built on _____ architecture a) Client-server b) P2P c) Data centric d) Service oriented
5C-7	Application layer protocols a) types of messages exchanged b) message format, syntax c) rules for when and how to use d) all of the mentioned
5C-8	Services provided by application layer a) Web chat b) Error control c) Connection services d) Congestion control
5C-9	Application layer interaction a) front user b) end user c) sensors d) wired link
5C-10	In wireless ad-hoc network a) access point is not required b) access point is must c) nodes are not required

	d) all nodes are access]
5C-11	Which of the following protoco - A) TCP - B) IP - C) FTP - D) Ethernet
5C-12	What is the primary purpose of - A) To assign IP addresses d - B) To resolve human-readal - C) To provide a secure com - D) To transfer files between
5C-13	Which of the following is a cha - A) It provides a secure com - B) It is a stateful protocol - C) It is used for transferring - D) It operates at the Networ
5C-14	Which of the following service - A) Web browsing - B) File transfer - C) Email sending - D) Remote login
5C-15	What does the acronym URL st - A) Uniform Resource Locat - B) Unified Resource Locatc - C) Universal Resource Link - D) Uniform Reference Link

Filling The Blank Questions

5F-1	In wireless distribution system _____	I
5F-2	Mostly _____ is used in wireless LAN.	I
5F-3	The default connection type used by HTTP is _____	II
5F-4	FTP server _____	II
5F-5	A DNS client is called _____	I
5F-6	The Application layer is layer ____ of the OSI model	II
5F-7	The main function of the Application layer is to provide _____ between the network and end-user applications	I
5F-8	_____ is a common protocol used at the Application layer for transferring hypertext documents across the internet	II
5F-9	_____ (acronym) is the protocol used by email clients to retrieve messages from a mail server.	I
5F-10	The protocol used for file transfer over the internet, providing both file upload and download capabilities, is called _____.	III
5F-11	The _____ protocol is often used for real-time audio and video communication over IP networks	IV

5F-12	_____ (acronym) is a protocol used to securely transfer files over a network, providing encryption for both data and command channels	III										
5F-13	The protocol that allows users to interact with a remote server as if they were using a local terminal is called _____.	IV										
5F-14	The Domain Name System (DNS) operates at the Application layer and is responsible for translating _____ into IP addresses	III										
5F-15	The protocol that allows for automated IP address configuration in a network is known as _____ (acronym).	VI										
	Match The Following Questions											
5M-1	<table><tr><th>List I</th><th>List II</th></tr><tr><td>a) IPv4 address of a host</td><td>i)Simple Mail Transfer Protocol</td></tr><tr><td>b) IPv6 address of a host</td><td>ii)Email address(es) for blind carbon copies</td></tr><tr><td>c) SMTP</td><td>iii) 128-Bit integer</td></tr><tr><td>d) Bcc</td><td>iv) 32-Bit integer</td></tr></table>	List I	List II	a) IPv4 address of a host	i)Simple Mail Transfer Protocol	b) IPv6 address of a host	ii)Email address(es) for blind carbon copies	c) SMTP	iii) 128-Bit integer	d) Bcc	iv) 32-Bit integer	I
List I	List II											
a) IPv4 address of a host	i)Simple Mail Transfer Protocol											
b) IPv6 address of a host	ii)Email address(es) for blind carbon copies											
c) SMTP	iii) 128-Bit integer											
d) Bcc	iv) 32-Bit integer											
5M-2	<table><tr><th>List I</th><th>List II</th></tr><tr><td>HTTP</td><td>Transfer of web pages</td></tr><tr><td>FTP</td><td>Sending email</td></tr><tr><td>DNS</td><td>. File transfer</td></tr><tr><td>SMTP</td><td>Resolving domain names</td></tr></table>	List I	List II	HTTP	Transfer of web pages	FTP	Sending email	DNS	. File transfer	SMTP	Resolving domain names	II
List I	List II											
HTTP	Transfer of web pages											
FTP	Sending email											
DNS	. File transfer											
SMTP	Resolving domain names											
5M-3	<table><tr><th>List I</th><th>List II</th></tr><tr><td>Web Browsing</td><td>SMTP</td></tr><tr><td>Email</td><td>FTP</td></tr><tr><td>File Download</td><td>DNS</td></tr><tr><td>Address Resolution</td><td>HTTP</td></tr></table>	List I	List II	Web Browsing	SMTP	Email	FTP	File Download	DNS	Address Resolution	HTTP	I
List I	List II											
Web Browsing	SMTP											
Email	FTP											
File Download	DNS											
Address Resolution	HTTP											

5M-4	<table><tr><th>List I</th><th>List II</th></tr><tr><td>Domain Name Service</td><td>Data transfer</td></tr><tr><td>. File Transfer Service</td><td>Name resolution</td></tr><tr><td>Hypertext Transfer Service</td><td>Web browsing</td></tr><tr><td>Email Service</td><td>Message transfer</td></tr></table>	List I	List II	Domain Name Service	Data transfer	. File Transfer Service	Name resolution	Hypertext Transfer Service	Web browsing	Email Service	Message transfer	V
List I	List II											
Domain Name Service	Data transfer											
. File Transfer Service	Name resolution											
Hypertext Transfer Service	Web browsing											
Email Service	Message transfer											
5M-5	<table><tr><th>List I</th><th>List II</th></tr><tr><td>80</td><td>SMTP</td></tr><tr><td>21</td><td>DNS</td></tr><tr><td>53</td><td>FTP</td></tr><tr><td>25</td><td>HTTP</td></tr></table>	List I	List II	80	SMTP	21	DNS	53	FTP	25	HTTP	VI
List I	List II											
80	SMTP											
21	DNS											
53	FTP											
25	HTTP											

5 MARKS QUESTIONS

5D-1	Describe the World Wide Web Architecture Overview	
5D-2	Analyze the Message Formats in E-Mail	
5D-3	Analyze the Message Transfer in E-Mail.	
5D-4	Distinguish between Static Web pages and Dynamic Web Pages	
5D-5	Explain in detail about HTML?	
5D-6	Elaborate HTTP, SMTP & FTP?	
5D-7	Explain the message transfer using simple mail transfer protocol?	
5D-8	Explain in detail about E-Mail?	
5D-9	Explain in detail about TELNET?	
5D-10	Explain in detail about DNS?	
5D-11	What are the primary functions and services provided by the Application layer in the OSI model?	
5D-12	Illustrate about Digital Audio in Application Layer	
5D-13	Illustrate Real Time Conferencing?	
5D-14	Illustrate about Digital Video.	
5D-15	Compare Streaming of Stored Media and Live Media?	

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Recognized under 2(f) and 12(B) of UGC Act 1956

III B.Tech - I Semester – End Examinations (Regular) 2020

COMPUTER NETWORKS

(Computer Science & Engineering)

Duration: 3 Hrs

Max Marks: 70M

Section – A

Answer All the following questions

Marks: 5Qx4M = 20M

1. List out the differences between OSI model and TCP/IP model? (Remembering)
2. Discuss about switched Ethernet and learning bridge? (Understanding)
3. Discuss about the implementation of connectionless services provided by network layer? (Understanding)
4. State address resolution protocol? (Remembering)
5. Explain about DNS? (Understanding)

Section – B

Answer any FIVE questions choosing at least one from each Unit

Marks: 5Qx10M = 50M

6. Explain about CRC and find CRC for a frame of data word: 1101010101 and divisor $G(x):10101$? (Understanding)
(or)
Explain about sliding window protocol? (Understanding)
7. Describe briefly about CSMA? (Understanding)
(or)
Illustrate how to detect and avoid collision in CSMA/CD and CSMA/CA? (Applying)
8. Describe about shortest path and its types? (Understanding)
(or)
Explain congestion control algorithm and explain its types? (Understanding)
9. Explain about IPv4 and IPv6 protocols? Understanding
(or)
Define and describe about ARP, RARP? (Understanding)
10. Define UDP - RPC? Explain about RTP and packet format for RTP. Explain each field? (Understanding)
(or)
State and explain client –server models? (Understanding)