Department of Computer Science and Engineering
National Institute of Technology, Tiruchirappalli

COURSE OUTLINE			
Course Title	Internetworking Protocols		
Course Code	CSPC32	No. of Credits	3
Department	CSE	Faculty	Swathy Murali Mohan
Pre-requisites	CSPC27		
Course Coordinator(s) (if, applicable)	Swathy Murali Mohan		
Teacher(s)/Tutor(s) E-mail	swathimuralimohan@gmail.com	Telephone No.	9496605124
Course Type	Core Course		

COURSE OVERVIEW

This course deals with various network topologies and principles, protocols.It also includes design of layers in OSI and TCP/IP models

COURSE OBJECTIVES

- To provide insight about networks, topologies, and the key concepts
- To gain comprehensive knowledge about the layered communication architectures (OSI and TCP/IP) and its functionalities
- To understand the principles, key protocols, design issues, and significance of each layers in OSI and TCP/IP
- To know the implementation of various layers

COURSE OUTCOMES

COs	**Aligned Programme Outcome (PO)**							
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
Ability to gain insight about basic network theory and layered communication architectures	S	M	M	B	B	S	B	M

Ability to code and implement MAC protocols, IPv4, IPv6, and TCP	S	B	S	S	M	S	M	M
Ability to design and develop Mobile IP	S	B	S	S	M	S	M	M
Ability to design and develop a communication protocol	S	B	S	S	M	S	M	M

COURSE TEACHING AND LEARNING ACTIVITIES		
Sl. No.	**Topic**	**Mode of Delivery**
	UNIT - 1	
1	Review of Reference Models	Chalk-Board
2	Topology and switching	Chalk-Board
3	IEEE Standard 802 from Ethernet	Chalk-Board
4	Token Bus	Chalk-Board
5	Token Ring	Chalk-Board
6	Wireless LAN	Chalk-Board
7	Connecting Devices	Chalk-Board
	UNIT - 2	
1	IPv4 headers,IP forwarding	Chalk-Board
2	Host Processing of IP datagrams, DHCP and Autoconfiguration	Chalk-Board
3	Firewalls and NAT	Chalk-Board
4	ICMPv4	Chalk-Board
5	IP Fragmentation, DNS	Chalk-Board
6	Broadcasting and Local Multicasting – IGMP	Chalk-Board
7	Routing Protocols	Chalk-Board
	UNIT - 3	
1	IPv6 Transition issues, Protocol basics	Chalk-Board
2	Addressing, Options and Extension headers	Chalk-Board
3	ICMPv6	Chalk-Board
4	Neighbor Discovery, Routing	Chalk-Board
5	Autoconfiguration	Chalk-Board
6	Multicast Listener Discovery (MLD)	Chalk-Board
7	Ipv6 and DNS	Chalk-Board
	UNIT - 4	
1	Transmission Control Protocol (TCP), TCP Connection Management	Chalk-Board
2	TCP Data Flow	Chalk-Board

3	TCP Window Management	Chalk-Board
4	Stream Control Transmission Protocol (SCTP)	Chalk-Board
5	STCP Services	Chalk-Board
6	SCTP Association management	Chalk-Board
7	SCTP flow and error control	Chalk-Board
	UNIT - 5	
1	Need for Mobile IP, Overview of Mobile IP	Chalk-Board
2	Details of Mobile IP	Chalk-Board
3	Tunneling	Chalk-Board
4	Mobility for IPv6	Chalk-Board
5	Applications of Mobile IP – Security primer	Chalk-Board
6	Campus Mobility	Chalk-Board
7	Internet wide mobility - A service provider perspective	Chalk-Board
	TOTAL	**35**

COURSE ASSESSMENT METHODOLOGY

Sl. No	Mode of Assessment	Week/Date	Duration	Marks
1	Assessment -1	5th week	1 hour	20
2	Assessment - 2	11th week	1 hour	20
3	Assignment	10th week		10
4	End Semester Examination	November last week	3 hours	50
			Total	100

ESSENTIAL READINGS (Textbooks, Reference books, Websites, Journals, etc.)

Text Books

1. W. Richard Stevens and G. Gabrani, “TCP/IP Illustrated: The Protocols”, Pearson, 2011
2. Peter Loshin, Morgan Kaufmann, ”IPv6: Theory, Protocol, and Practice”, 2 nd Ed,2003
3. James Solomon, “Mobile IP: The Internet Unplugged”, 1 st Ed, Pearson Education, 2008

Reference Books

1. Kevin R. Fall and W. Richard Stevens, “TCP/IP Illustrated, Vol. 1- The Protocols”, 2 nd Edition, Addison-Wesley, 2012
2. Silvia Hagen, “IPv6 Essentials, 2 nd Edition, O'Reilly Media, 2006
3. Charles E. Perkins, “Mobile IP: Design Principles and Practices”, 1 st Edition, Pearson Education, 2008

Course Exit Survey

Student feedback form will be collected at the end of the course through MIS

Course Policy

Attendance- Students having 75% to 100% attendance are eligible for writing the End semester Examination. Students having attendance between 65% & 75% with valid reasons can write the end semester exam after attending extra classes. Students having less than 65% have to redo the course. Student should not absent for the assessment. If the reason for absence is genuine, the student can reappear for reassessment.

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FOR SENATE'S CONSIDERATION

Course Faculty	CC Chairperson	HOD