SRM UNIVERSITY
FACULTY OF ENGINEERING AND TECHNOLOGY
SCHOOL OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
COURSE PLAN

Course Code : CS0603
Course Title : TCP/IP Technology
Semester : III
Course Duration : July –Dec 2011

Day	Section			
	A		B	
	Hour	Timing	Hour	Timing
Day 1	1,3	8.45-9.35, 10.35-11.25	1,3	8.45-9.35, 10.35-11.25
Day 2	2	9.35-10.25	2	9.35-10.25
Day 3	-	-	-	-
Day 4	-	-	-	-
Day 5	1	8.45-9.35	1	8.45-9.35

Location : S.R.M.E.C – Tech Park

Faculty Details

Section	Name	Office	Office hour	Mail id
A	Jeyasekar. A.	Tech Park Room No. 703A	8.45AM -4.00PM	jeyasekar@ktr.srmuniv.ac.in

Required Text Books:

1. Behrouz Forouzan, "TCP/IP protocol suite", 2nd edition, Tata McGrawhill
2. Douglas Comer, "Internetworking with TCP / IP" ,Vol - 1, PHI, 2000

Web resources

http://highered.mcgraw-hill.com/sites/0073376043/student_view0/

Prerequisite : Computer Networks
Data communication

Objectives

- To study the standards of TCP / IP protocols and addressing
- To Study the various protocols like ARP, RARP, TCP, UDP, ICMP, IGMP
- To understand the operation of multicast protocol, Client server technology, remote login

Assessment Details

Attendance	:	5 Marks
Cycle Test – I	:	25 Marks
Surprise Test/Quiz	:	5 Marks
Term Paper	:	10 Marks
Model Exam	:	25 Marks
Total	**:**	**70 Marks**

Test Schedule

S.No.	DATE	TEST	DURATION
1	**As per Calander**	**Cycle Test**	**2 periods**
2	**As per Calander**	**Model Exam**	**3 Hrs**

Outcomes

Students who have successfully completed this course will have full understanding of the following concepts

Course outcome	Program outcome
To understand the various standards on data communication	An ability to understand the basic concept of software life cycle model
To understand the functionality of reference model for data communication	An ability to understand the basic concepts of data communication and responsibility of each layers of reference model
To understand the various protocols of different layers	An Ability to understand the operation of various protocol
To understand the basic concept of socket programming and client server model	An ability to understand the concept of client server technology and remote login protocols, DHCP,BOOTP

Detailed Session Plan

Introduction to computer network, data communication, standards					
Session No.	**Topics to be covered**	**Time (min)**	**Ref**	**Teaching Method**	**Testing Method**
1	Protocols, Reference model OSI layer concept	50	1,2	BB	Open Discussion and Quiz
2	Functionality of Various layers in OSI reference model	50	1,2	BB	Objective type test Quiz
3	TCP/IP suite, Difference between OSI and TCP/IP suite, Pitfalls of layer concepts	50	1	BB	Quiz
4	Standards, IEEE, ISO, ITU, IETF, IRTF	50	1	BB	Quiz
5	Addressing – Ipv4, IPv6, advantages	50	1	BB	Quiz
6	Underlying technology, Switch, Bridge	50	1	BB	Quiz Objective type test
7	Router, repeater, Hub	50	1	BB	Quiz, Assignment
8	Ethernet, gigabyte Ethernet, frame format	50	1	BB	Group discussion
9	Under layer technology, ADSL, Modem, WLAN	50	1	BB	Group discussion
IP ADDRESSES, ROUTING, ARP AND RARP					
10	IP addressing methods,	50	1,2	BB	Quiz
11	Classful addressing, Class A,B,C,D,E, Issues of IP addressing	50	1,2	BB	Quiz Brain storming
12	Subneting , Subnet masking, Superneting, CIDR	50	1,2	BB	Quiz Surprise Test
13	Routing, various types of forwarding techniques	50	1,2	BB	Group discussion Quiz
14	Routing Table	50	1,2	BB	Group discussion, Quiz
15	Architecture of Router	50	1,2	BB	Quiz, Assignment
16	ARP input module, output module, cache module	50	1	BB	Quiz Group discussion Objective type test
17	ARP package	50	1	BB	Quiz Group discussion
18	RARP	50	1	BB	Quiz, Comparative study
IP, ICMP, TGMP AND UDP					
19	IP datagram format – Fragmentation, option field, checksum	50	1,2	BB	Quiz Surprise Test
20	IP package	50	1,2	BB	Quiz Group discussion
21	ICMP messages, type of messages, message format	50	1,2	BB	Quiz Comparative study
22	ICMP package	50	1	BB	Quiz Group discussion

23	IGMP messages, type of messages, Message format	50	1,2	BB	Quiz
24	IGMP operation, joining, leaving from group	50	1	BB	Quiz Brain storming
25	IGMP package	50	1	BB	Quiz Brain storming
26	UDP packet format, operation	50	1	BB	Group discussion Assignment
27	UDP package	50	1	BB	Group discussion Quiz
TCP, UNICAST AND MULTICAST ROUTING PROTOCOLS					
28	Flow control.\, sliding window protocol, silly window syndrome,	50	1	BB	Group discussion Assignment
29	Slow start algorithm, Error contro	50	1	BB	Group discussion Assignment
30	TCP packet format, operation	50	1,2	BB	Objective type test
31	TCP packages	50	1,2	BB	Quiz Group discussion Comparative study
32	State transition diagram of TCP protocol	50	1	BB	Objective type test
33	Unicast routing protocol, RIP	50	1	BB	Objective type test
34	OSPF, BGP	50	1	BB	Quiz Group discussion
35	Multi cast routing protocol, MOSPF		1	BB	Objective type test
36	CBT, PIM	50	1,2	BB	Group discussion
APPLICATION LAYER, SOCKETS					
37	Client server model	50	1,2	BB	Comparative study
38	Concurrency, socket, byte ordering	50	1,2	BB	Comparative study
39	Socket system calls	50	1,2	BB	Brain storming
40	Socket programming and primitives	50	1,2	BB	Brain storming
41	TCP, UDP client server program	50	1	BB	Group discussion
42	BOOTP, DHCP	50	1	BB	Assignment
43	DNS Name space	50	1	BB	Group Discussion and Assignment
44	Type of records, mode of operation	50	1,2	BB	Group Discussion and Assignment
45	Rlogin	50	1,2	BB	Group Discussion and Assignment

BB – Black Board
PP – Power Point