

SCHEME OF COURSE WORK

Department of Information Technology

Course Details:

COURSE TITLE	Network Programming Lab		
COURSE CODE	15IT1110	L T P C	0 0 3 2
PROGRAM	B.TECH		
SPECIALIZATION	IT		
SEMESTER	VII		
PRE REQUISITES	C , UNIX		
COURSES TO WHICH IT IS A PRE REQUISITE	N/A		

Course Outcomes (COs):

1	Create TCP Sockets for client server communication
2	Create UDP Sockets for client server communication
3	Apply I/O multiplexing programs to handle multiple clients in TCP transport services
4	Implement interposes communication between related processes
5	Develop different forms of IPC

Course Outcome versus Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	3	2	3							3	2	1	
CO2	2	3	3	3								3		1	
CO3			2	2	3							2		1	1
CO4	2	2		3	2							2			1
CO5	2	2		3	2							2	2	2	

Assessment Methods	Internal -Test / Viva
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Programme Specific Outcomes (PSOs)

At the end of the Programme, a student will be able to

PSO1: Plan, develop, implement, and evaluate IT solutions to specific business problems using specific programming language and software tools.

PSO2: Design and Develop Network, Mobile and Web-based Computational systems under realistic constraints.

PSO3: Design and implement fundamental network security solutions.

Programme Outcomes (POs)

At the end of the Programme, a student will be able to

- PO1:** Apply the knowledge of mathematics, science, engineering fundamentals and principles of Information Technology to solve problems in different domains.
- PO2:** Analyze a problem, identify and formulate the computing requirements appropriate to its solution.
- PO3:** Understand to design, develop and evaluate software components and applications that meet specifications within the realistic constraints including cultural, societal and environmental considerations.
- PO4:** Design and conduct experiments, as well as analyze and interpret data
- PO5:** Use appropriate techniques and tools to solve domain specific interdisciplinary problems.
- PO6:** Understand the impact of Information technology on environment and the evolution and importance of green computing.
- PO7:** Analyze the local and global impact of computing on individual as well as on society and incorporate the results in to engineering practice.
- PO8:** Demonstrate professional ethical practices and social responsibilities in global and societal contexts.
- PO9:** Function effectively as an individual, and as a member or leader in diverse and multidisciplinary teams.
- PO10:** Communicate effectively with the engineering community and with society at large.
- PO11:** Understand engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects.
- PO12:** Recognize the need for updating the knowledge in the chosen field and imbibing learning to learn skills.

Teaching- Learning & Evaluation

Week	Topic/ Contents	Course Outcomes	Teaching learning strategy	Assessment method & schedule
1	Design TCP iterative Client and Echo server application to given input sentence	CO1	Programming	Viva-1 Lab Internal-1
2	Design TCP iterative Client and Echo server application to given input sentence	CO1	Programming	Viva-2 Lab Internal-1
3	Design TCP iterative Client and server application to reverse the given input sentence	CO1	Programming	Viva-3 Lab Internal-1
4	Design TCP client and server application to transfer file	CO1	Programming	Viva-4 Lab Internal-1
5	Design a TCP concurrent server to convert a given text into upper case using multiplexing system call "select"	CO3	Programming	Viva-5 Lab Internal-1
6	Design a TCP concurrent server to convert a given text into upper case using multiplexing system call "select"	CO3	Programming	Viva-6 Lab Internal-1
7	Design a TCP concurrent server to echo given set of sentences using poll functions	CO3	Programming	Viva-7 Lab Internal-1
8	Design UDP Client and server application to reverse the given input sentence	CO2	Programming	Viva-8 Lab Internal-1
9	Test-1			
10	Design UDP Client server to transfer a file	CO2	Programming	Viva-10 Lab Internal-2
11	Design UDP Client Server application to count the total number of special characters in given input string.	CO2	Programming	Viva-11 Lab Internal-2
12	Design UDP Client Server application to calculate the sum of two integers.	CO2	Programming	Viva-12 Lab Internal-2
13	Implement the following forms of	CO4	Programming	Viva-13

	IPC. a. Pipes b. FIFO			Lab Internal-2
14	Implement file transfer using Message Queue form of IPC	CO4	Programming	Viva-14 Lab Internal-2
15	Write a program to create an integer variable using shared memory concept and increment the variable simultaneously by two processes. Use semaphores to avoid race conditions.	CO5	Programming	Viva-15 Lab Internal-2
16	Write a program to create an integer variable using shared memory concept and increment the variable simultaneously by two processes. Use semaphores to avoid race conditions.	CO5	Programming	Viva-16 Lab Internal-2
17	Program practice & Doubts	---	Programming	
18	Test-2			