

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM**  
(AUTONOMOUS)  
III B.Tech I Semester Supplementary Examinations, May - 2024

**ADVANCED UNIX PROGRAMMING**  
(Information Technology)

Time: 3 hours

Max. Marks: 70M

Answer ONE Question from each Unit  
All Questions Carry Equal Marks

Q. No.	Questions	BTL	CO	Marks
<b>UNIT – I</b>				
1.	a) List different operating systems. Differentiate difference between windows and linux operating systems.	K1	CO1	7M
	b) Explain the following Unix commands with syntax and example. i) cal ii) script iii) who iv) cp	K2	CO1	7M
<b>OR</b>				
2.	a) Illustrate the responsibilities of shell with neat diagram.	K2	CO1	7M
	b) What are the types of file permission? Explain how to use “chmod” command to set the permissions in a relative manner with an example.	K1	CO1	7M
<b>UNIT – II</b>				
3.	a) Explain the following commands in shell programming with syntax and example: i) read ii) expr iii) export iv) exec	K2	CO1	7M
	b) Write a c program to implement cat command using low level system calls.	K3	CO2	7M
<b>OR</b>				
4.	a) How to debug shell script. Write a shell script to find the largest of 10 integers.	K1	CO1	7M
	b) Write a program that takes one or more file name as command line input and reports the following information on the file. i) File type. ii) Number of links. iii) Time of last access.	K3	CO2	7M
<b>UNIT – III</b>				
5.	a) Differentiate between wait and waitpid systems calls. Write a C program how to handle SIGCHLD signal.	K2	CO3	7M
	b) Write a C program to read a directory name as input and list all files along with inode number.	K3	CO3	7M
<b>OR</b>				
6.	a) Differentiate between zombie and orphan process? Write a C program to illustrate the zombie process.	K3	CO3	7M
	b) Write a C program to catch signal SIGINT and display message “hello you are interrupted” after pressing ctrl + c, catch signal using signal handler function.	K3	CO3	7M

UNIT – IV					
7.	a)	Explain how named pipes are replaced to overcome the drawback of pipe in inter process communication with an example.	K2	CO4	7M
	b)	Write a C program that receives 3 messages from the sender using message queues system calls and displays messages to output stream based on priority.	K3	CO4	7M
OR					
8.	a)	Write short notes on the following: i) API's for semaphores ii) File locking with semaphores.	K1	CO4	7M
	b)	Write a C program to implement two-way communication to send and receive message using pipes.	K3	CO4	7M
UNIT – V					
9.	a)	Differentiate between connection-oriented and connectionless service.		CO5	7M
	b)	Explain with a program how to copy file data from server to client using shared memory ?	K2	CO4	7M
OR					
10.	a)	How to control a shared memory segment? Explain it in detail with example.	K2	CO4	7M
	b)	Write a program to implement UDP client server application in which client takes an integer value from the command line and sends to the server. Server returns the factorial of the received integer value to the client.	K4	CO5	7M