K.S INSTITUTE OF TECHNOLOGY, BENGALURU-560109
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
18CS56–UNIX PROGRAMMING
EXHAUSTIVE QUESTION BANK

Module 4

Question Bank

1. Discuss the applications of FIFO
2. Explain popen and pclose functions.
3. Explain different API's used for message queues
4. Explain shmget, shmctl, shmat and shmdt functions.
5. Write short notes on client server properties.
6. Explain three different methods in which client and server can get access to same IPC structure? Explain different API's used for these structure(10 Marks)
7. Explain client server structure using FIFO with a neat diagram(10M)
8. What is semaphore? Explain the API along with relevant data structure involved in implementing semaphore.
9. Write short notes on:

a. Socket

b. Shared Memory

c. Stream Pipes

10. Define FIFO? What is difference between FIFO and pipe? What are two uses of FIFO? Explain each with example. (12 M)
11. Explain the following statement:
msqid=msget(15,IPC-CREAT|0644);
Also explain the following: i) msgctl ii) msgrcv (8 M)
12. Define IPC. List the IPC types supported by UNIX system (5M)
13. How to create pipe in UNIX programming? List the limitations of pipe. (4M)
14. Develop a code snippet that the parent sends "Hello world "message to child process through the pipe. Child on receiving this message should display it on output screen. (7M)
15. Define message queue. Discuss how it is used in inter-process communication in detail. (8M)
16. Write a C/C++ program to create a shared memory segment of 100,000bytes, print first and last memory address in which the segment is attached and finally remove the shared memory segment from memory. Use the relevant shared memory segment functions. (8M)

17. Explain passing file descriptors over UNIX domain sockets with relevant structures and macros. (12M)

18. Write short notes on:

a. Streams pipe

b. Passing file descriptors

c. Co-Processes

19. Explain with diagrams setting up connld for unique connections.(10M)

20. Explain shared memory in detail maintained by kernel. (10M) 21.Which is the fastest form of IPC? Explain(10M)

21. Explain Streams based pipes. Write a C function that is used by a server to wait for a client's connecting request to arrive. (10M)