Multiple Choice Questions

1. Which of the following is true in the context of Inter-process communication:

    a. It is like a user defined procedure call.

    b. It is like user defined a function call.

    c. It is a system call.

2. For IPC communication the OS employs an internally defined data-structure which is defined:

    a. In user space

    b. As a separate area which is neither in user space nor in kernel space

    c. In kernel space

3. When a process is forked the child process inherits some properties. Which of the following properties are inherited?

    a. The process id.

    b. The process code

    c. All the defined program variables

    d. The priority of the process.

    e. The stack

4. As a function fork evaluates to true in parent

    a. True

    b. False

5. Which of the following belong to valid commands in the *exec* family?

    a. execl( )

    b. exect( )

    c. execlp( )

    d. exelp( )

    e. execp( )

6. On populating code in a child process which of the following conditions hold:

    a. The process becomes independent of the parent – its PPID is destroyed.

    b. A new subdirectory is created to locate the new process.

    c. The environmental variables remain unchanged.

    d. A new stack is defined for the new process.

7. When a pipe is defined – its either end can be utilized for reading / writing

    a. True

    b. False

8. Which of the following are true in the case of a pipe as a mechanism of IPC?

    a. A pipe is for uni-directional communication.

    b. A pipe uses a buffer and the size of the buffer can be specified by the user.

    c. Pipes can be extended to establish communication between processes resident on different machines provided we use the process id together with IP address of the machines.

    d. Pipes can not support broadcast.

9. Which of the following statements are true for shared files as a mechanism for IPC.

    a. Define a file_name in the sender and give access permission for the world.

    b. Define shared file directory as a shared object.

    c. Define a file pointer as a shared object and use a semaphore in mutually exclusive manner.

    d. Files can be shared any way if the processes belong to the users in the same group.

10. Suppose we use a shared file pointer mechanism for IPC. Also, suppose there are several processes that read this file but there is one and only one clearly identified process that writes into it Reflect on the following:

    a. We do not need semaphore protection as only one process is writing.

    b. We need one semaphore to ensure exclusive write operation.

    c. We need as many semaphores as the processes using the shared file pointer.

11. Which of the following statements are true for shared memory as a IPC mechanism.

    a. The shared memory is defined as a "safe area" and gets attached to the the processes that share this area.

    b. The shared memory model uses an array which is defined in all the processes that share the area.

    c. The shared memory is a specific chunk of main memory which is in the temp directory and is accessible during the life time of the processes sharing it.

    d. It is desirable that the shared memory area is de-allocated for garbage collection after use.

    e. Processes must belong to the same host for shared memory area as a mechanism for IPC.

12. Which of the following are required when a shared memory area is used for IPC:

    a. Data size in bytes

    b. Pointer to the data area

    c. First attach time

    d. Last attach time

    e. First detach time

    f. Last detach time

    g. Last change time

13. Which of these mechanism is supported in the Hyper-cube:

    a. Shared file pointer

    b. Shared memory area

    c. Message based communication

    d. None of the above – it has its own IPC

14. A msgsnd() or msgrcv() returns an integer. Which of the following are true statements:

    a. Return value > 1 indicates a correct send or receive

    b. Return value = 0 indicates a correct send or receive

    c. Return value = -1 indicates an error has occurred

15. Which of the following are possibly acceptable responses to a signal:

    a. Receive but never respond

    b. Receive and always respond

    c. Receive and respond selectively

16. A mail box is an indirect mode of communication

    a. True

    b. False