Branch : CSE & IT Batch : English

Operating System

Process Management

DPP 01

[MCQ]

1. Consider the following statements:

(i) In Uni-programming, CPU can run only one program at a time.

(ii) In Multi-programming, CPU can run multiple program at a time.

Which of the following is correct?

(a) (i) is correct (ii) is incorrect.
(b) (i) is incorrect (ii) is correct.
(c) Both (i) and (ii) are correct.
(d) Both (i) and (ii) are incorrect.

[MSQ]

2. Which of the following is/are incorrect?

(a) Multiprogramming enhances CPU throughput.
(b) Non-preemptive processes may have forceful deallocation.
(c) Non-preemptive multiprogramming is equivalent to uni-programming.
(d) Multiprogramming is of two types preemptive and non-preemptive.

[MCQ]

3. (Fork) system call is converted by compiler and also know as _____.

(a) Supervisory call.
(b) Privileged instruction.
(c) Software interrupt instruction.
(d) All of the above.

[MCQ]

4. Consider the following statement:

(i) User program gets blocked when fork call is executed.

(ii) Dispatch table contains information regarding all system call.

(iii) Fork system call can execute non-atomically in system.

Which of the following is/are correct?

(a) Only (i) is correct.
(b) (i) and (ii) are correct.
(c) (i) and (iii) are correct.
(d) (ii) and (iii) are correct.

[MSQ]

5. Which of the following is/are correct?

(a) Changing mode from user to kernel need an interrupt.
(b) Changing mode from kernel to user needs an interrupt.
(c) ISR (Interrupt Service Routine) is responsible for mode shifting (user to kernel)
(d) ISR (Interrupt Service Routine) is responsible for changing the mode kernel to user.

[MCQ]

6. Consider the following statements:

(i) Static data have fixed size and memory allocated during run-time.

(ii) Dynamic data have different size and memory allocated during load-time.

Which of the following is/are correct?

(a) Only (i) is correct.
(b) Only (ii) is correct.
(c) Both (i) and (ii) are correct.
(d) Both (i) and (ii) are incorrect.

[MCQ]

7. Match the following

(i) Program	1. Active entity
(ii) Process	2. Resides in main memory
	3. Passive entity
	4. Resides in disk

(a) (i) – 1, 3 (ii) – 2, 4
(b) (i) – 2, 4 (ii) – 1, 3
(c) (i) – 1, 2 (ii) – 1, 4
(d) (i) – 3, 4 (ii) – 1, 2

[MCQ]

8. Program counter holds _____.

(a) Address of previous executed instruction.
(b) Address of current executing instruction.
(c) Address of next instruction to be executed.
(d) None of these.

Answer Key

1. **(a)**
2. **(b, c)**
3. **(d)**
4. **(b)**
5. **(a, c)**
6. **(d)**
7. **(d)**
8. **(c)**

Hint & Solutions

1. (a)

(i) In uni-programming, CPU can load and run only one program at a time.

(ii) In multi-programming, CPU can load multiple program but only one program can run at a time.

∴ (i) is correct and (ii) is incorrect.

2. (b, c)

(a) Multiprogramming enhances CPU throughput. **Correct**.

(b) Non-preemptive processes do not have forceful deallocation. So, 'B' is **Incorrect.**

(c) Non-preemptive multiprogramming is not equal to uni-programming. **Incorrect**.

(d) Multiprogramming is of two types preemptive and non-preemptive.

3. (d)

(Fork) System call is converted by compiler for execution and it is also known as supervisory call, privileged instruction, or software interrupt instruction. Therefore, option (d) is correct.

4. (b)

Fork is a system call and has more privilege, therefore user program gets blocked when CPU is executing fork. So 'i' is correct. Dispatch table has the information regarding all system calls along with their address. So, (ii) is correct.

Fork is a system call and executed in kernel mode, so it has to execute atomically. So, (iii) is incorrect.

5. (a, c)

Changing mode from user to kernel mode needs an interrupt and it blocks the user process, then execute the system service.

ISR is responsible for mode shifing from user to kernel. Whereas, there is no need of any interrupt to change the mode form kernel to user as the system is in already kernel mode and to change the mode from kernel to user, last instruction of system call is used.

∴ (a) and (c) are correct.

6. (d)

Static data have fixed size and memory is allocated before run-time or during load time.

Dynamic data is size is unknown and memory is allocated during run-time.

∴ Both (i) and (ii) are incorrect.

7. (d)

Program is a passive entity and resides in disk.

Process is an active entity and resides in main memory.

8. (c)

Program counter holds address of the next instruction to be executed.