

QUESTION 2016

GROUP - A (Multiple Choice Type Questions)

1. Choose the correct alternatives for the following:

i) Fork() is

- ☒ a) creation of a new process
- ☐ b) dispatching of a task
- ☐ c) increment of task priority
- ☐ d) none of these

ii) A null process has a process Identifier

- ☐ a) -1
- ☒ b) 0
- ☐ c) 1
- ☐ d) null

iii) Computer Virus is

- ☒ a) a software
- ☐ b) a code attached to software
- ☐ c) intruders
- ☐ d) none of these

iv) Which is not a layer of operating system?

- ☐ a) kernel
- ☐ b) shell
- ☐ c) application program
- ☒ d) critical section

v) TLB stands for

- ☐ a) Translition Look-Aside Buffer
- ☒ b) Translation Look-Aside Buffer
- ☐ c) Translation Local Buffer
- ☐ d) Translating Look-Aside Buffer

vi) Thrashing

- ☐ a) reduces page I/O
- ☐ b) improves the system information
- ☒ c) implies excessive page I/O
- ☐ d) decreases the degree of multiprogramming

vii) Context Switching is

- ☐ a) part of spooling
- ☐ b) part of poling
- ☒ c) part of interrupt handling
- ☐ d) part of interrupt servicing

viii) The number of processes completed per unit time is known as

- ☐ a) output
- ☐ b) capacity
- ☐ c) efficiency
- ☒ d) throughput

ix) In priority scheduling algorithm

- ☒ a) CPU is allocated to the process with highest priority
- ☐ b) CPU is allocated to the process with lowest priority
- ☐ c) equal priority processes cannot be scheduled
- ☐ d) none of these

x) Round Robin scheduling falls under the category of

- ☐ a) non pre-emptive scheduling
- ☒ b) pre-emptive scheduling
- ☐ c) both (a) and (b)
- ☐ d) none of these

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Group - B

(Short Answer Type Questions)

2. Explain PCB.

See Topic: PROCESS MANAGEMENT, Short Answer Type Question No. 3.

3. Define thread and its life cycle.

See Topic: PROCESS MANAGEMENT, Short Answer Type Question No. 5.

4. What do you mean by Critical Section Problem? Explain with example.

See Topic: PROCESS SYNCHRONIZATION, Long Answer Type Question No. 6(a).

5. Explain Demand Paging in memory management scheme. What is Multilevel Feedback Queue?

1st part: See Topic: MEMORY MANAGEMENT, Short Answer Type Question No. 8.

2nd part: See Topic: CPU SCHEDULING, Short Answer Type Question No. 2.

6. What is page fault? When does it occur?

1st part: See Topic: MEMORY MANAGEMENT, Short Answer Type Question No. 5.

2nd part: See Topic: MEMORY MANAGEMENT, Short Answer Type Question No. 3.

Group - C

(Long Answer Type Questions)

7. a) Name some criteria to evaluate a processor management scheme.

See Topic: PROCESS MANAGEMENT, Long Answer Type Question No. 6.

b) What do you mean by long term, short term and medium term scheduler?

See Topic: CPU SCHEDULING, Long Answer Type Question No. 1.

c) What is multilevel feedback queue scheduling?

See Topic: CPU SCHEDULING, Short Answer Type Question No. 2.

8. a) What do you mean by race condition?

See Topic: PROCESS SYNCHRONIZATION, Short Answer Type Question No. 3.

b) Explain in detail the operations of semaphore.

See Topic: PROCESS SYNCHRONIZATION, Short Answer Type Question No. 1.

c) Explain the classical problems of synchronization in detail.

See Topic: PROCESS SYNCHRONIZATION, Long Answer Type Question No. 9.

9. What are the necessary conditions for deadlock? Describe a system model for deadlock. Explain the resource allocation graph for deadlock avoidance. Discuss different deadlock recovery techniques.

1st part: See Topic: DEADLOCK, Short Answer Type Question No. 1.

2nd part: See Topic: DEADLOCK, Long Answer Type Question No. 5.

3rd & 4th part: See Topic: FILE SYSTEM, Long Answer Type Question No. 6.

10. a) Consider the following page reference string:

0 1 3 6 2 4 5 2 5 0 3 1 2 5 4 1 0

Calculate the page fault rate for the following algorithm:

- i) FIFO
 - ii) LRU
 - iii) Optimal (Memory size is 3 Frames).
- b) Explain Belady's anomaly for page replacement algorithm.
- a) See Topic: MEMORY MANAGEMENT, Long Answer Type Question No. 7.
 - b) See Topic: MEMORY MANAGEMENT, Long Answer Type Question No. 2.

11. Write short notes on any three of the following:

- a) Distributed OS
See Topic: DISTRIBUTED OPERATING SYSTEM, Long Answer Type Question No. 2(a).
- b) Thrashing
See Topic: MEMORY MANAGEMENT, Long Answer Type Question No. 9(b).
- c) File access methods
See Topic: FILE SYSTEM, Long Answer Type Question No. 2.
- d) Virtual memory
See Topic: MEMORY MANAGEMENT, Short Answer Type Question No. 4.
- e) Segmentation
See Topic: MEMORY MANAGEMENT, Long Answer Type Question No. 9(d).