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Reg. No. : .....

**Code No. : 30383 E      Sub. Code : JMCS 61/  
JMSE 61/SMCS 61**

B.Sc. (CBCS) DEGREE EXAMINATION,  
APRIL 2020.

Sixth Semester

Computer Science/Software Engineering – Main

**OPERATING SYSTEM**

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Submission of subsequent task for processing to the time its result becomes available \_\_\_\_\_.  
(a) Throughput      (b) Response time  
(c) Turnaround time      (d) Service time

2. SVC refers to \_\_\_\_\_.
- (a) system viable call
  - (b) system visible call
  - (c) serial visible call
  - (d) supervisory call
3. For waiting state, a process can only enter into \_\_\_\_\_.
- (a) running state            (b) ready state
  - (c) new state                (d) terminated state
4. An application process can create \_\_\_\_\_ to execute.
- (a) One thread                (b) Two threads
  - (c) Three threads            (d) Many threads
5. A semaphore that does not specify the order in which processes are removed from the queue is a \_\_\_\_\_.
- (a) strong semaphore
  - (b) weak semaphore
  - (c) binary semaphore
  - (d) general semaphore

6. Safe state is one where \_\_\_\_\_.
- (a) it is deadlock
  - (b) it is not a deadlocked state
  - (c) it is deadlock avoidance
  - (d) it is process and resource
7. The page replacement policy which uses the principle of locality of reference for its replacement decision \_\_\_\_\_.
- (a) FIFO
  - (b) Optimal
  - (c) LRU
  - (d) Clock
8. Memory compaction is used to eliminate \_\_\_\_\_.
- (a) external fragmentation
  - (b) page fault
  - (c) swapping
  - (d) none of these
9. The physical order of a record in a file, as determined by the access method, is known as \_\_\_\_\_.
- (a) file management system
  - (b) file organization
  - (c) file allocation table
  - (d) file structure

10. A record contain \_\_\_\_\_.
- (a) single data                      (b) multiple data  
(c) related fields                      (d) logical flags

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write and discuss about Operating System generation.

Or

- (b) Discuss about system calls.

12. (a) What is meant by IPC? Explain.

Or

- (b) Discuss about multi process scheduling.

13. (a) How the deadlock is prevented? Explain.

Or

- (b) Discuss about Peterson's solution for critical section problem.

14. (a) Explain swapping method in memory management.

Or

- (b) Explain any one paging algorithm.

15. (a) Discuss about file system structure.

Or

- (b) Write about directory implementation.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is a function Operating System?

Or

- (b) Write in details about Operating System design and implementation.

17. (a) Write about the concept Operating System scheduling criteria.

Or

- (b) What is thread? Write about thread scheduling.

18. (a) Write and explain dead avoidance method.

Or

(b) Explain the following :

(i) Critical section problem

(ii) Semaphores.

19. (a) Discuss about virtual memory with example.

Or

(b) Write about :

(i) Frames

(ii) Threading.

20. (a) Explain file allocation method.

Or

(b) Write about file sharing and protection.

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