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Reg. No. :

Code No. : 40383 E Sub. Code : JMCS 61/
JMSE 61

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2019.

Sixth Semester

Computer Science/Software Engineering – Main
OPERATING SYSTEMS

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ allows many systems to attach to a pool of storage
 - (a) DLM
 - (b) SAN
 - (c) WAN
 - (d) WORM

2. Messages can be exchanged between the process either directly or indirectly through _____
- (a) packets (b) host name
(c) mail box (d) resources
3. Which of the following is the process state when a process is waiting to be assigned to the processor?
- (a) new (b) running
(c) waiting (d) ready
4. _____ is a module that gives control to the process selected by the short term scheduler
- (a) Context switch (b) CPU burst
(c) Dispatcher (d) Scheduler
5. Co-operating process share _____
- (a) data (b) code
(c) data and code (d) no sharing
6. Which one of the following is a synchronization tool?
- (a) mutex (b) locks
(c) semaphores (d) all the above

7. For handling address spaces larger than 32 bits
_____ page table is used
- (a) hierarchical (b) hashed
(c) inverted (d) all the above
8. _____ address space refers to the logical view of process in memory
- (a) segmentation (b) paging
(c) virtual (d) all the above
9. File is a collection of related information on the
_____ storage
- (a) primary (b) secondary
(c) tertiary (d) auxiliary
10. _____ is a solid state drive
- (a) CD (b) DVD
(c) Blu-ray disc (d) All the above

PART B — (5 × 5 = 25 marks)

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

Answer should not exceed 250 words.

11. (a) Define operating system and explain user view and system view of the same.

Or

- (b) Explain various categories of system programs.

12. (a) Give an account of PCB with suitable diagram.

Or

- (b) State and explain the criteria behind CPU scheduling.

13. (a) Explain critical section problem with its solution.

Or

- (b) What is safe state? Explain with example.

14. (a) Explain dynamic linking and loading.

Or

- (b) Discuss the performance of demand paging.

15. (a) Discuss about file access methods.

Or

- (b) Explain SCAN scheduling used in the disk.

PART C — (5 × 8 = 40 marks)

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

Answer should not exceed 600 words.

16. (a) Describe the architecture of operating system with suitable diagram.

Or

- (b) Give an account of operating system services.

17. (a) Explain in detail IPC with reference to message passing systems.

Or

- (b) Explain in detail various scheduling algorithms with suitable examples.

18. (a) Define synchronization and explain how it works in consumer producer problem.

Or

- (b) Explain in detail the deadlock prevention.

19. (a) Describe the paging model of logical and physical memory with suitable diagram.

Or

- (b) Discuss about thrashing in page allocation.

20. (a) Explain various operations on files with reference to file structure.

Or

- (b) Give an account of mass storage structure.
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