



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination –November 2019

III Semester

Class : II B.Sc CS/BCA

Time: 3 hours

Major : Computer Science/Computer Applications

Max. Marks: 100

18BCSC09/18BCAC11 – OPERATING SYSTEMS

Part A

10 x 1 = 10

Choose the correct answer

- The operating system performs a _____ to stop executing a previously ready process.
(a) context switch (b) interrupt (c) semaphore (d) thread process
- As each thread proceeds to update the shared variable, all others are excluded from doing so simultaneously, is called as _____.
(a) semaphore (b) mutual exclusion (c) program counter (d) protection
- The _____ is much faster than main memory and it is typically located on each processor in today's system
(a) RAM (b) ROM (c) cache (d) virtual memory
- When a process references a page that is not in main memory, the processor generates a _____ which invokes the operating system to load the minimum page into memory from secondary storage.
(a) error (b) lock (c) interrupt (d) page fault
- A scheduling discipline is _____ if, once the system has assigned a processor to a process, the system cannot remove the processor from that process.
(a) non-preemptive (b) preemptive (c) critical section (d) semaphore
- _____ is a non-preemptive scheduling discipline in which the scheduler selects the waiting process with the smallest estimated run-time-to-completion.
(a) Shortest-remaining time scheduling (b) highest response ratio next scheduling
(c) round robin scheduling (d) shortest process first
- A process or thread is in a state of _____ if it is waiting for a particular event that will not occur.
(a) ready (b) running (c) deadlock (d) collision
- In a relational database system, the records are uniquely identified by using the _____ key.
(a) master (b) primary (c) reference (d) secondary
- In _____ cryptosystem single key is used for both encryption and decryption process that is conversion of plain text into cipher text and cipher text into plain text.
(a) public key (b) asymmetric (c) symmetric (d) authentication
- In Linux, a function or a system call _____ is to create a child process from the parent process.
(a) inode (b) fork (c) create (d) new

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11. (a) Illustrate about the Process states and State transition with a diagram.

(OR)

11. (b) Write a Mutual exclusion with semaphore algorithm and brief.

12. (a) What is Memory hierarchy? Describe about it.

(OR)

12. (b) How should the operating system be protected from destruction by the user's program?

13. (a) What are the objectives of Scheduling? Brief.

(OR)

13. (b) Write a note on shortest process first scheduling.

14. (a) Illustrate the Simple resource deadlock.

(OR)

14. (b) Write a note on File system.

15. (a) How to use password protection method to secure our data?

(OR)

15. (b) List down the various features of Linux Operating System.

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16. (a) What is an Interrupt? How it is handled in operating system?

(OR)

16. (b) Write a note on (i) PCB

(ii) Operation on Process.

17. (a) Discuss the idea of Virtual memory in detail.

(OR)

17. (b) Explain the different types of Paging techniques.

18. (a) How to use the Round Robin scheduling algorithm for process allocation?

(OR)

18. (b) Discuss about the need of Processor interconnection scheme.

19. (a) Write the Dijkstra's algorithm and explain how it help to avoid the deadlock?

(OR)

19. (b) Discuss about the different type of File Organization techniques.

20. (a) Explain the symmetric and asymmetric cryptographic model with a diagram.

(OR)

20. (b) Describe mobile operating system.
