

Reg. No. :

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**Question Paper Code: 53205**

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Third Semester

Computer Science and Engineering

01UCS305 - OPERATING SYSTEMS

(Regulation 2013)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

**(Answer any six of the following questions)**

1. A parent process calling \_\_\_\_\_ system call will be suspended until children processes terminate.  
(a) wait                      (b) fork                      (c) exit                      (d) exec
2. The number of processes completed per unit time is known as  
(a) output                      (b) throughput                      (c) efficiency                      (d) capacity
3. The most optimal scheduling algorithm that avoids starvation is  
(a) First come first served                      (b) Shortest job first  
(c) Round robin                      (d) None of these
4. The section of code which accesses shared variables is called as \_\_\_\_\_.  
(a) Critical section                      (b) Block                      (c) Procedure                      (d) Semaphore
5. A Page fault occurs when  
(a) the deadlock happens  
(b) when segmentation starts  
(c) when page is found in the memory  
(d) when page is not found in the memory

6. A process refers to 5 pages, A, B, C, D, E in the order : A, B, C, D, A, B, E, A, B, C, D, E. If the page replacement algorithm is FIFO, the number of page transfers with an empty internal store of 3 frames is :
- (a) 8                      (b) 10                      (c) 9                      (d) 7
7. In contiguous allocation:
- (a) each file must occupy a set of contiguous blocks on the disk  
 (b) each file is a linked list of disk blocks  
 (c) all the pointers to scattered blocks are placed together in one location  
 (d) None of these
8. Consider a disk with 10 blocks, where blocks 1, 4, 6, 8, 10 are free and the rest are allocated. The free space bit map would be
- (a) 1001010101                      (b) 1010100101  
 (c) 1001010111                      (d) 0110101010
9. The dmesg command
- (a) Shows user login logoff attempts                      (b) Shows the syslog file for info messages  
 (c) Kernel log messages                      (d) Shows the daemon log messages
10. Which of the following is FALSE?
- (a) Context switch time is longer for kernel level threads than for user level threads  
 (b) User level threads do not need any hardware support  
 (c) Related kernel level threads can be scheduled on different processors in a multiprocessor system  
 (d) Blocking one kernel level thread blocks all other related threads

PART – B (3 x 8= 24 Marks)

**(Answer any three of the following questions)**

11. Explain briefly about the operating system services. (8)
12. With a help of diagram discuss the structure of a monitor. (8)
13. Give the basic concepts about paging and give a note on techniques for structuring the page table. (8)
14. Enumerate why file protection is necessary? Write notes about the protection strategies provided for files. (8)
15. Outline the concept kernel I/O subsystem. (8)