

**15BITC09 Operating Systems**

**Part-A**

**10 x 1=10**

**Choose the correct answer**

1. \_\_\_\_\_ is software that allows a user to run other applications on a computing device.  
a. malware                      b. operating system                      c. vw ware                      d. firmware
2. An \_\_\_\_\_ is a signal to the processor emitted by hardware or software indicating an event that needs immediate attention.  
a. running                      b. interrupt                      c. wait                      d. terminated
3. A \_\_\_\_\_ prevents simultaneous access to a shared resource  
a. parallel processing                      b. critical section                      c. mutual exclusion                      b. critical region
4. A \_\_\_\_\_ is a variable used to control access to a common resource by multiple processes in a concurrent system.  
a. semaphore                      b. monitors                      c. path                      d. Expression
5. \_\_\_\_\_ delay indefinitely the scheduling of a process while other processes receive the system's attention.  
a. deadlink                      b. Indefinite postponment                      c. pathlock                      d. block
6. Deadlock \_\_\_\_\_ is the process of actually determining that a deadlock exists and identifying the processes and resources involved in the deadlock.  
a. pre-emption                      b. avoidance                      c. prevention                      d. detection
7. \_\_\_\_\_ is a memory management scheme that eliminates the need for contiguous allocation of physical memory.  
a. paging                      b. segmentation                      c. scheduling                      d. allocation
8. \_\_\_\_\_ is a memory management technique in which memory is divided into variable sized chunks which can be allocated to processes.  
a. paging                      b. segmentation                      c. scheduling                      d. allocation
9. \_\_\_\_\_ is a free and open-source software operating systems built around the Linux kernel.  
a. script                      b. variable                      c. linux                      d. command
10. The Linux command interpreter or \_\_\_\_\_ is the program users interact with in a terminal emulation window.  
a shell                      b. value                      c. constant                      d. both(a) and (b)

**Part B**

**5 X 6=30**

**Answer the following**

**Answer should not exceed 400 words or two pages**

11. a. Write short notes on operating system.  
(or)
11. b. Define an Interrupt and the types of Interrupt.
12. a. Write short notes on Mutual Exclusion condition.  
(or)
12. b. What is Concurrent Programming? Write short notes on Concurrent Programming.
13. a. Define a Deadlock. Briefly explain deadlock detection.  
(or)
13. b. Write short notes on fixed partition multi-programming.
14. a. Write short notes virtual storage management.  
(or)
14. b. Write briefly about backup and recovery of files.
15. a. Write short notes on types of shells in Linux.  
(or)
15. b. Explain with suitable example various constructs in Linux operating system.

**Part C**

**5 x 12=60**

**Answer the following**

**Answer should not exceed 800 words or four pages**

16. a. Define a Process. Explain in detail about the operations of Process Control Block.  
(or)
16. b. Discuss in detail about Interrupt Processing.
17. a. What is Parallel Processing? Write in detail about Parallel Processing.  
(or)
17. b. Elaborately explain the following:
  - i. Path Expressions [6 marks]
  - ii. Semaphores [6 marks]
18. a. Write in detail about Deadlock Avoidance and Recovery.  
(or)
18. b. Discuss elaborately about Variable Partition Multiprogramming.
19. a. Write in detail about Paging and Segmentation.  
(or)
19. b. Write in detail about various Job Scheduling Techniques.
20. a. Discuss in detail about Linux operating system.  
(or)
20. b. Write in detail with example writing programs using make command.