

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Operating System

Subject Code: 4TE04OPS1

Branch: B.Tech (CE, IT)

Semester: 4

Date: 05/05/2018

Time: 10:30 To 1:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
-

Q-1

Attempt the following questions:

(14)

1. Which among the following is not function of Operating System?
a) Memory Management b) Disk Management
c) Application Management d) Virus Protection
2. Which one of the following are not types of Scheduling Algorithm?
a) FCFS b) SRTN c) SJF d) Ostrich Algorithm
3. In producer-consumer problem, when buffer is empty _____ has to wait.
a) Producer b) Consumer c) Both d) None
4. Process creation in UNIX is done by
a) New() b) Fork() c) Make() d) Parent()
5. Which of the following is not a process state?
a) Ready b) Running c) New d) Request
6. The disadvantage of a process being allocated all its resources before beginning its execution is _____.
a) Low CPU utilization b) Low resource utilization
c) Very high resource utilization d) None of these
7. The time disk controller takes for the beginning of the sector to reach the head is known as _____.
a) Seek Time b) Rotational Latency c) Access Time d) Transfer Time
8. Which of the following are Attributes of File?
a) Name b) Type c) Size d) All of the above
9. What is the use of PWD command in UNIX?
a) To Print Working Directory b) Copies File
c) Prints Password d) Prints Word File
10. Bringing a page into memory only when it is needed is known as _____.
a) Deadlock b) Page Fault c) Demand Paging d) Swapping
11. What is the full form of RAID?
a) Repeated Array of Independent Disks
b) Redundant Array of Independent Disks



- c) Redundant Array of Individual Disks
d) Repeated Array of Individual Disks
12. Saving the state of the old process and loading the saved state of the new process is called _____.
- a) Aging b) Context Switch c) Swapping d) Paging
13. The part of the program where shared memory is accessed is called the _____.
- a) Critical Region b) Clever Region c) Critical RAM d) Clever RAM
14. Wastage of memory within the partition is known as _____.
- a) Internal fragmentation b) External fragmentation
c) Segmentation d) Paging

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions**
- a) Write a short note on Batch Operating System (04)
b) With the help of process state diagram explain different states of process. (05)
c) Explain different Services provided by Operating System. (05)
- Q-3 Attempt all questions**
- a) What is Mutual exclusion? Explain Peterson's solution for mutual exclusion problem. (04)
b) What is Deadlock? Write & explain necessary condition for deadlock to occur. (05)
c) Explain Round Robin Scheduling algorithm using example. (05)
- Q-4 Attempt all questions**
- a) Explain segmentation with help of its significance. (07)
b) Explain Demand Paging with the use of diagram. (07)
- Q-5 Attempt all questions**
- a) Give differences between Internal & External Fragmentation (04)
b) Write a short note on Inode (05)
c) Explain various file operations. (05)
- Q-6 Attempt all questions**
- a) Consider the following page reference string: (07)
a, b, c, d, c, a, d, b, e, b, a, b, c, d
Assuming four empty frames, how many Page Faults would occur for the following Page Replacement Algorithms:
 - FIFO Page Replacement
 - LRU Page Replacement
- b) Describe RAID Levels. (07)
- Q-7 Attempt all questions**
- a) Explain any two Disk Arm Scheduling algorithms with suitable (07)
b) Explain Directory Structure (07)



Q-8

Attempt all questions

- a) Write a short note on Access Matrix. **(05)**
- b) Write a shell script to print largest number from given three numbers. **(05)**
- c) Explain following unix commands. **(04)**
 - 1. grep
 - 2. Cat

