

C.U.SHAH UNIVERSITY

Winter Examination-2015

Subject Name: Operating System

Subject Code: 4TE04OPS1

Branch: B.Tech (CE)

Semester: 4

Date: 23/11/2015

Time: 2:30 To 5:30

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)

- a) The systems which allows only one process execution at a time, are called
 - a) uniprogramming systems
 - b) uniprocessing systems
 - c) unit asking systems
 - d) none of the mentioned
- b) Messages sent by a process.
 - a) have to be of a fixed size
 - b) have to be a variable size
 - c) can be fixed or variable sized
 - d) None of these
- c) The number of processes completed per unit time is known as _____.
 - a) Output
 - b) Throughput
 - c) Efficiency
 - d) Capacity
- d) In Unix, Which system call creates the new process?
 - a) Terminated
 - b) create
 - c) new
 - d) Fork
- e) The processes that are residing in main memory and are ready and waiting to execute are kept on a list called _____.
 - a) job queue
 - b) ready queue
 - c) execution queue
 - d) process queue
- f) What is a long-term scheduler?
 - a) It selects which process has to be brought into the ready queue
 - b) It selects which process has to be executed next and allocates CPU
 - c) It selects which process to remove from memory by swapping
 - d) None of these
- g) A monitor is a type of :
 - a) semaphore
 - b) low level synchronization construct
 - c) high level synchronization construct
 - d) None of these
- h) The Process Control Block is :
 - a) Process type variable
 - b) Data Structure
 - c) a secondary storage section
 - d) a Block in memory



- i) Which one of the following is the deadlock avoidance algorithm?
 - a) karn's algorithm
 - b) round-robin algorithm
 - c) elevator algorithm
 - d) banker's algorithm
- j) _____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.
 - a) Paging
 - b) Demand paging
 - c) Segmentation
 - d) Swapping
- k) The _____ table contains the base address of each page in physical memory.
 - a) process
 - b) memory
 - c) page
 - d) frame
- l) What is the ready state of a process?
 - a) when process is scheduled to run after some execution
 - b) when process is unable to run until some task has been completed
 - c) when process is using the CPU
 - d) none of the mentioned
- m) What are common security threats?
 - a) File Shredding
 - b) File sharing and permission
 - c) File corrupting
 - d) File integrity
- n) The segment base contains the :
 - a) starting logical address of the process
 - b) starting physical address of the segment in memory
 - c) segment length
 - d) None of these

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

- Q-2 Attempt all questions**
- a) List and explain the types of Operating System. (05)
 - b) Explain Hierarchical Page Table, Hashed Page Table, And Inverted Page Table. (05)
 - c) Explain File Attributes and File Operations. (04)
- Q-3 Attempt all questions**
- a) Explain Client Server and VM architecture of OS. (05)
 - b) Explain goals and principles of protection. (05)
 - c) Explain Spooling with example. (04)
- Q-4 Attempt all questions**
- a) What is scheduler? Explain queuing diagram representation of process scheduler with figure. (07)
 - b) Explain RAID levels. (07)
- Q-5 Attempt all questions**
- a) Discuss Peterson's solution for with algorithm (05)
 - b) Explain Program Threats- Trojan Horse, Trap Doors, and Logic Bombs. (05)
 - c) Define: Preemptive algorithm, Non Preemptive algorithm, Waiting Time, Response Time, Turn Around Time. (04)



