BRAINWARE UNIVERSITY
Term End Examination 2020 - 21
Programme – Bachelor of Computer Applications
Course Name – Operating System
Course Code - BCA302
Semester / Year - Semester III

Time allotted : 85 Minutes   Full Marks : 70

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)   1 x 70=70

1.   *(Answer any Seventy)*

(i) OS provides platform to run

    a) system software   b) application software

    c) System software and application software   d) None of these

(ii) DOS is a ………………

    a) frame bit   b) page number

    c) system software   d) None of these

(iii) The …………. is an application software

    a) OS   b) MS WORD

    c) DOS   d) None of these

(iv) By operating system, the resource management can be done via

    a) time division multiplexing   b) space division multiplexing

    c) both time and space division multiplexing   d) none of these

(v) Which one of the following error will be handle by the operating system?

    a) power failure   b) lack of paper in printer

c) connection failure in the network   d) all of these

(vi) Example of single user single tasking os is
   a) LINUX   b) WINDOWS
   c) DOS   d) None of these

(vii) What is a shell script?
   a) group of commands   b) a file containing special symbols
   c) a file containing a series of commands   d) group of functions

(viii) Which command is used for making the scripts interactive?
   a) Ip   b) Input
   c) Read   d) Write

(ix) A program in execution is called
   a) Process   b) Instruction
   c) Procedure   d) Function

(x) Which of the following is not a fundamental process state
   a) Ready   b) Terminated
   c) Waiting   d) Blocked

(xi) RAG is a useful tool to represent a …………. in a system
   a) Deadlock   b) Resource allocation
   c) Race condition   d) None of these

(xii) Program is a …………. Entity while process is ………….
   a) Passive, active   b) Active, passive
   c) Passive .Active and Active, passive   d) None of these

(xiii) FCFS is …………………. Scheduling algorithm.

    a) Pre-emptive   b) Non-preemptive

    c) Pre-emptive and Non-preemptive   d) None of these

(xiv) ……………is a scheduler is invoked when there is need to perform job scheduling

    a) Long-term   b) Medium-term

    c) Short-term   d) None of these

(xv) Which one of the following is not a process communication

    a) Message passing   b) Shared memory

    c) Signal   d) None

(xvi) To detect deadlock in a single instance of resource types, which graph is used?

    a) RAG   b) WAIT-FOR-GRAPH

    c) Directed graph   d) None of these

(xvii) Example of mutually exclusive resource is

    a) RAM   b) Printer

    c) RAM and Printer   d) None

(xviii) In priority scheduling algorithm

    a) CPU is allocated to the process with highest priority   b) CPU is allocated to the process with lowest priority

    c) Equal priority processes can not be scheduled   d) None of these

(xix) Time quantum is defined in

    a) shortest job scheduling algorithm   b) round robin scheduling algorithm

    c) priority scheduling algorithm   d) multilevel queue scheduling algorithm

(xx) A system is in the safe state if

a) the system can allocate resources to each process in some order and still avoid a deadlock

b) there exist a safe sequence

c) all of these

d) none of these

(xxi) The circular wait condition can be prevented by

a) defining a linear ordering of resource types

b) there exist a safe sequence

c) using pipes

d) all of these

(xxii) Which one of the following is the deadlock avoidance algorithm?

a) banker's algorithm

b) round-robin algorithm

c) elevator algorithm

d) karn's algorithm

(xxiii) Which one of the following is a visual (mathematical) way to determine the deadlock occurrence?

a) resource allocation graph

b) starvation graph

c) inversion graph

d) none of these

(xxiv) The segment of code in which the process may change common variables, update tables, write into files is known as :

a) program

b) critical section

c) non – critical section

d) synchronizing

(xxv) The following three conditions must be satisfied to solve the critical section problem :

a) Mutual Exclusion

b) Progress

c) Bounded Waiting

d) All of these

(xxvi) For Mutual exclusion to prevail in the system :

a) at least one resource must be held in a non-sharable mode

b) the processor must be a uniprocessor rather than a multiprocessor

c) there must be at least one resource in a sharable mode

d) None of these

(xxvii) All unsafe states are :

a) deadlocks

b) not deadlocks

c) fatal

d) none of these

(xxviii) The data structures available in the Banker's algorithm are :

a) Available

b) Need

c) Allocation

d) All of these

(xxix)

A deadlock can be broken by _____

a)

b)

abort one or more processes to break the circular wait

abort all the process in the system

c)

d) none of these

preempt all resources from all processes

(xxx) A process can be terminated due to

a) normal exit

b) fatal error

c) killed by another process

d) all of these

(xxxi) 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 these

(xxxii) What is inter process communication?

a) communication within the process

b) communication between two process

c) communication between two threads of same process

d) none of these

(xxxiii) The address of the next instruction to be executed by the current process is provided by the

a) CPU registers

b) Program counter

c) Process stack

d) Pipe

(xxxiv) The number of processes completed per unit time is known as _____

a) Output

b) Throughput

c) Efficiency

d) Capacity

(xxxv) The degree of multiprogramming is:

a) the number of processes in the ready queue

b) the number of processes in the I/O queue

c) the number of processes in memory

d) the number of processes executed per unit time

(xxxvi) What is a short-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

d) None of these

(xxxvii) The context of a process in the PCB of a process does not contain :

a) the value of the CPU registers

b) the process state

c) memory-management information   d) context switch time

(xxxviii) 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

(xxxix) Which one is deadlock condition?

a) Mutual exclusion
b) No preemption
c) Hold and wait
d) All of these

(xl) A process can be

a) single threaded
b) none of these
c) Multithreaded
d) both single threaded and multithreaded

(xli) Which one of the following is a synchronization tool?

a) thread
b) pipe
c) semaphore
d) socket

(xlii) The backing store is generally a :

a) fast disk
b) disk large enough to accommodate copies of all memory images for all users
c) disk to provide direct access to the memory images
d) all of these

(xliii) Paging increases the _____ time.

a) waiting
b) execution
c) context – switch
d) all of these

(xliv) With paging there is no _____ fragmentation.

a) internal
b) external

c) either type of   d) none of these

(xlv) The size of a page is typically :

a) varied   b) power of 2

c) power of 4   d) none of these

(xlvi) Every address generated by the CPU is divided into two parts :

a) frame bit & page number   b) page number & page offset

c) page offset & frame bit   d) frame offset & page offset

(xlvii) External fragmentation exists when :

a) enough total memory exists to satisfy a request but it is not contiguous   b) the total memory is insufficient to satisfy a request

c) a request cannot be satisfied even when the total memory is free   d) none of these

(xlviii) Program always deals with

a) logical address   b) absolute address

c) physical address   d) relative address

(xlix) Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called

a) fragmentation   b) paging

c) Mapping   d) none of these

(l) Which one of the following is the address generated by CPU?

a) physical address   b) absolute address

c) logical address   d) none of these

(li) ....is a technique of temporarily removing inactive programs from main memory.

a) Swapping   b) Spooling

c) Semaphore   d) Scheduler

(lii) I/O hardware contains _____

    a) Bus   b) Controller

    c) I/O port and its registers   d) All of these

(liii) 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

(liv) In linked 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

(lv) _____ and _____ are the most common strategies used to select a free hole from the set of available holes.

    a) First fit, Best fit   b) Worst fit, First fit

    c) Best fit, Worst fit   d) None of these

(lvi) Random access in magnetic tapes is _____ compared to magnetic disks.

    a) Fast   b) very fast

    c) slow   d) very slow

(lvii) SSTF algorithm, like SJF _____ of some requests.

    a) may cause starvation   b) will cause starvation

    c) does not cause starvation   d) causes aging

(lviii) Root directory of a disk should be placed

    a) at the fixed address in the main memory   b) at a fixed location on the disk

    c) at the fixed location on system disk   d) anywhere on the disk

(lix) Creating a job queue is a function of

    a) Spooler   b) Interpreter

    c) Complier   d) Drive

(lx) Which scheduler selects processes from secondary storage device is called

    a) Short term scheduler.   b) Long term scheduler.

    c) Medium term scheduler.   d) Process scheduler

(lxi) Memory utilization factor shall be computed as follows

    a) memory in use/total memory connected.   b) purpose of a data structure

    c) memory allocated/free existing memory   d) memory committed/total memory available.

(lxii) 'LRU' page replacement policy is

    a) Last Replaced Unit.   b) Last Restored Unit.

    c) Least Recently Used.   d) Least Required Unit.

(lxiii) The main memory accommodates....

    a) Opearting system   b) CPU

    c) Keyboard   d) None of these

(lxiv) Poor response time is usually caused by

    a) Process busy   b) High I/O rates

    c) High paging rates   d) Any of these

(lxv) Which scheduling policy is most suitable for a time-shared operating

system

    a) Shortest-job First.   b) Elevator.

    c) Round-Robin.   d) First-Come-First-Serve.

(lxvi) A critical section is a program segment

    a) which should run in a certain specified amount of time.   b) which avoids deadlocks.

    c) where shared resources are accessed.   d) which must be enclosed by a pair of semaphore operations, P and V.

(lxvii) The main reason to encrypt a file is to

    a) Reduce its size   b) Secure it for transmission

    c) Prepare it for backup   d) Include it in the start-up sequence

(lxviii) A UNIX device driver is

    a) Structured into two halves called top half and bottom half   b) Three equal partitions

    c) Unstructured   d) None of these

(lxix) Virtual memory is

    a) simple to implement   b) an illusion of extremely large main memory

    c) less efficient in utilization of memory   d) useful when fast I/O devices are not available

(lxx) To avoid race condition, the maximum number of processes that may be simultaneously inside the critical section is

    a) 0   b) 1

    c) 2   d) More than 2