BRAINWARE UNIVERSITY
Term End Examination 2020 - 21
Programme – Master of Computer Applications
Course Name – Operating System
Course Code - MCA301
Semester / Year - Semester III

Time allotted : 75 Minutes   Full Marks : 60

[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 60=60

1.   (Answer any Sixty)

(i) In _____ information is recorded magnetically on platters.

a) magnetic disks   b) electrical disks

c) assemblies   d) cylinders

(ii) OS provides platform to run

a) system software   b) application software

c) Both system software &application   d) None of these
software

(iii) DOS is a ………………

a) frame bit   b) page number

c) system software   d) None

(iv) The ………… is an application software

a) OS   b) MS WORD

c) DOS   d) None

(v) In Unix, Which system call creates the new process?

a) fork   b) create

c) New   d) None

(vi) In operating system, each process has its own

a) address space and global variables   b) open files

c) pending alarms, signals and signal handlers   d) all of these

(vii) 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

(viii) To access the services of operating system, the interface is provided by the

a) System calls   b) API

c) Library   d) Assembly instructions

(ix) The variable in any shell script begins with a _____

a) #   b) $

c) .=   d) (

(x) Interval between the time of submission and completion of the job is called

a) Waiting time   b) Turnaround time

c) Throughput   d) Response time

(xi) Which of the following approaches do not require knowledge of the system state?

a) Deadlock detection   b) Deadlock prevention

c) Deadlock avoidance.   d) None

(xii) 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.

(xiii) RAG is a useful tool to represent a ………… In a system

a) Deadlock
b) Resource allocation

c) Race condition
d) None

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

a) Pre-emptive
b) Non-preemptive

c) Both Pre-emptive & Non-preemptive
d) None

(xv) Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?

a) first-come, first-served scheduling
b) shortest job scheduling

c) priority scheduling
d) none of these

(xvi) Scheduling is :

a) allowing a job to use the processor
b) making proper use of processor

c) all of the mentioned
d) none of these

(xvii) 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

(xviii) 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

(xix) 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
d) All of these

sharable mode

(xx) For sharable resources, mutual exclusion :
a) is required   b) is not required
c) maybe or may not be required   d) none of these

(xxi) A deadlock avoidance algorithm dynamically examines the _____
to ensure that a circular wait condition can never exist.
a) resource allocation state   b) system storage state
c) operating system   d) resources

(xxii) A state is safe, if :
a) the system does not crash due to   b) the system can allocate resources to each
deadlock occurrence   process in some order and still avoid a
                                                          deadlock

c) the state keeps the system protected and   d) All of these
safe

(xxiii) A system is in a safe state only if there exists a :
a) safe allocation   b) safe resource
c) safe sequence   d) All of these

(xxiv) All unsafe states are :
a) deadlocks   b) not deadlocks
c) fatal   d) none of these

(xxv) If no cycle exists in the resource allocation graph :
a) then the system will not be in a safe state b) then the system will be in a safe state
c) all of the mentioned   d) none of these

(xxvi) The Banker's algorithm is _____ than the resource allocation

graph algorithm.

    a) less efficient   b) more efficient

    c) equal   d) none of these

(xxvii) When a process terminates :

    a) It is removed from all queues   b) It is removed from all, but the job queue

    c) Its process control block is de-allocated   d) Its process control block is never de-allocated

(xxviii) Which module gives control of the CPU to the process selected by the short-term scheduler?

    a) dispatcher   b) interrupt

    c) scheduler   d) none of these

(xxix) 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

(xxx) The interval from the time of submission of a process to the time of completion is termed as

    a) waiting time   b) turnaround time

    c) response time   d) throughput

(xxxi) The process to be aborted is chosen on the basis of the following factors :

    a) priority of the process   b) process is interactive or batch

    c) how long the process has computed   d) All of these

(xxxii) If we preempt a resource from a process, the process cannot continue with its normal execution and it must be :

    a) aborted   b) rolled back

c) terminated   d) queued

(xxxiii) Which one is deadlock condition?
   a) Mutual exclusion   b) No preemption
   c) Hold and wait   d) All of these

(xxxiv) A process can be
   a) single threaded   b) none of the mentioned
   c) Multithreaded   d) both single threaded and multithreaded

(xxxv) Which one of the following is a synchronization tool?
   a) thread   b) pipe
   c) semaphore   d) socket

(xxxvi) Logical memory is broken into blocks of the same size called
_____
   a) frames   b) pages
   c) backing store   d) none of these

(xxxvii) Physical memory is broken into fixed-sized blocks called _____
   a) frames   b) pages
   c) backing store   d) none of these

(xxxviii) External fragmentation will not occur when :
   a) first fit is used   b) best fit is used
   c) worst fit is used   d) no matter which algorithm is used, it will
                                                always occur

(xxxix) External fragmentation exists when :
   a) enough total memory exists to satisfy a   b) the total memory is insufficient to satisfy
   request but it is not contiguous   a request

c) a request cannot be satisfied even when the total memory is free

d) none of these

(xl) Operating System maintains the page table for

a) each process

b) each thread

c) each instruction

d) each address

(xli) Program always deals with

a) logical address

b) absolute address

c) physical address

d) relative address

(xlii) 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

(xliii) Run time mapping from virtual to physical address is done by

a) Memory management unit

b) CPU

c) PCI

d) none of these

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

a) physical address

b) absolute address

c) logical address

d) none of these

(xlv) _____is a technique of temporarily removing inactive programs from main memory.

a) Swapping

b) Spooling

c) Semaphore

d) Scheduler

(xlvi) I/O hardware contains _____

a) Bus

b) Controller

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

(xlvii) The three major methods of allocating disk space that are in wide use are
_____

a) Contiguous   b) Linked

c) Indexed   d) All of these

(xlviii) On systems where there are multiple operating system, the decision to load a particular one is done by _____

a) boot loader   b) bootstrap

c) process control block   d) file control block

(xlix) The VFS (virtual file system) activates file system specific operations to handle local requests according to their _____

a) size   b) commands

c) timings   d) file system types

(l) What is the real disadvantage of a linear list of directory entries?

a) size of the linear list in memory   b) linear search to find a file

c) it is not reliable   d) All of these

(li) Contiguous allocation of a file is defined by _____

a) disk address of the first block & length   b) length & size of the block

c) size of the block   d) total size of the file

(lii) The first fit and best fit algorithms suffer from _____

a) internal fragmentation   b) external fragmentation

c) starvation   d) All of these

(liii) To solve the problem of external fragmentation _____ needs to be done periodically.

a) Compaction   b) Check

c) Formatting   d) replacing memory

(liv) If too little space is allocated to a file _____

a) the file will not work   b) there will not be any space for the data, as the FCB takes it all

c) the file cannot be extended   d) the file cannot be opened

(lv) The heads of the magnetic disk are attached to a _____ that moves all the heads as a unit.

a) Spindle   b) disk arm

c) track   d) none of these

(lvi) When the head damages the magnetic surface, it is known as _____

a) disk crash   b) head crash

c) magnetic damage   d) All of these

(lvii) A floppy disk is designed to rotate _____ as compared to a hard disk drive.

a) Faster   b) Slower

c) at the same speed   d) none of these

(lviii) Consider a disk queue with requests for I/O to blocks on cylinders. 98 183 37 122 14 124 65 67 Considering FCFS (first cum first served) scheduling, the total number of head movements is, if the disk head is initially at 53 is?

a) 600   b) 620

c) 630   d) 640

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

a) may cause starvation   b) will cause starvation

c) does not cause starvation   d) causes aging

(lx) Creating a job queue is a function of

a) Spooler   b) Interpreter

c) Complier   d) Drive