BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Master of Computer Applications
Course Name – Operating Systems
Course Code - MCA202
(Semester II)

Time allotted : 1 Hrs.15 Min. **Full Marks : 60**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question) 1 x 60=60

Choose the correct alternative from the following :

(1) In _____ information is recorded magnetically on platters.
a) magnetic disks b) electrical disks
c) assemblies d) cylinders

(2) OS provides platform to run
a) system software b) application software
c) Both of these d) None of these

(3) In Unix, Which system call creates the new process?
a) fork b) create
c) new d) none of the mentioned

(4) 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 the mentioned

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

(6) Shell is the exclusive feature of
a) UNIX b) System software
c) DOS d) Application Software

(7) The variable in any shell script begins with a _____
a) # b) $
c) = d) (

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

(9) Which of the following is not a fundamental process state

a) Ready
b) Terminated
c) Waiting
d) Blocked

(10) 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

(11) RAG is a useful tool to represent a ……. in a system

a) Deadlock
b) Resource allocation
c) Race condition
d) None

(12) FCFS is ……. Scheduling algorithm.

a) Pre-emptive
b) Non-preemptive
c) Both of these
d) None of these

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

a) Message passing
b) Shared memory
c) Signal
d) None

(14) 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

(15) 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 the mentioned

(16) Scheduling is

a) allowing a job to use the processor
b) making proper use of processor
c) all of the mentioned
d) none of the mentioned

(17) The circular wait condition can be prevented by

a) defining a linear ordering of resource types
b) using thread
c) using pipes
d) all of the mentioned

(18) 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 the mentioned

(19) 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

(20) For a deadlock to arise, which of the following conditions must hold simultaneously?

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

(21) For sharable resources, mutual exclusion

a) is required
b) is not required
c) maybe or may not be required
d) none of the mentioned

(22) A state is safe, if

a) the system does not crash due to deadlock occurrence
b) the system can allocate resources to each process in some order and still avoid a

deadlock

c) the state keeps the system protected and safe
d) all of the mentioned

(23) The Banker's algorithm is _____ than the resource allocation graph algorithm.

a) less efficient
b) more efficient
c) equal
d) none of the mentioned

(24) The content of the matrix Need is

a) Allocation – Available
b) Max – Available
c) Max – Allocation
d) Allocation – Max

(25) 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

(26) A set of processes is deadlock if

a) each process is blocked and will remain so forever
b) each process is terminated
c) all processes are trying to kill each other
d) none of the mentioned

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

a) Output
b) Throughput
c) Efficiency
d) Capacity

(28) 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

(29) In a time-sharing operating system, when the time slot given to a process is completed, the process goes from the running state to the :

a) Blocked state
b) Ready state
c) Suspended state
d) Terminated state

(30) 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 the mentioned

(31) 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 the mentioned

(32) A process can be

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

(33) The _____ time in a swap out of a running process and swap in of a new process into the memory is very high.

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

(34) Paging increases the _____ time.

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

(35) The size of a page is typically :

a) varied
b) power of 2
c) power of 4
d) none of the mentioned

(36) 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

(37) Physical memory is broken into fixed-sized blocks called _____

a) frames
b) pages
c) backing store
d) none of the mentioned

(38) Operating System maintains the page table for

a) each process
b) each thread
c) each instruction
d) each address

(39) Program always deals with

a) logical address
b) absolute address
c) physical address
d) relative address

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

a) physical address
b) absolute address
c) logical address
d) none of the mentioned

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

a) Swapping
b) Spooling
c) Semaphore
d) Scheduler

(42) The major methods of allocating disk space that are in wide use are

a) Contiguous
b) Linked
c) Indexed
d) All of the mentioned

(43) In indexed 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 the mentioned

(44) 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 the mentioned

(45) _____ 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 the mentioned

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

a) Compaction
b) Check
c) Formatting
d) replacing memory

(47) The time taken to move the disk arm to the desired cylinder is called the _____

a) positioning time
b) random access time
c) seek time
d) rotational latency

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

a) disk crash
b) head crash
c) magnetic damage
d) all of the mentioned

(49) What is the host controller?

a) controller built at the end of each disk
b) controller at the computer end of the bus
c) all of the mentioned
d) none of the mentioned

(50) 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

(51) On media that use constant linear velocity (CLV), the _____ is uniform.

a) density of bits on the disk
b) density of bits per sector
c) the density of bits per track
d) none of the mentioned

(52) In the _____ algorithm, the disk arm starts at one end of the disk and moves toward the other end, servicing requests till the other end of the disk. At the other end, the direction is reversed and servicing continues.

a) LOOK
b) SCAN
c) C-SCAN
d) C-LOOK

(53) 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

(54) Disk scheduling includes deciding

a) which should be accessed next
b) order in which disk access requests must be serviced
c) the physical location of the file
d) the logical location of the file

(55) In ……., the processor issues an I/O command, on behalf of a process, to an I/O module.

a) Programmed I/O
b) Interrupt driven I/O
c) Direct Memory Access
d) Virtual Memory Access

(56) The …… policy is to select the disk I/O request that requires the least movement of the disk arm from its current position.

a) Last in first out
b) Shortest service time first
c) Priority by process
d) Random scheduling

(57) A …….. is the basic element of data where individual field contains a single value, such as an employees last name, a data or the value of the sensor reading.

a) Field
b) Record
c) File
d) Database

(58) _____ is an approach to restricting system access to authorized users.

a) Role-based access control
b) Process-based access control
c) Job-based access control
d) None of the mentioned

(59) Which one of the following is not an attack, but a search for vulnerabilities to attack?

a) denial of service
b) port scanning
c) memory access violation
d) dumpster diving

(60) The “turn-around” time of a user job is the

a) time since its submission to the time its results become available.
b) time duration for which the CPU is allotted to the job.
c) total time taken to execute the job.
d) time taken for the job to move from assembly phase to completion phase.