BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – MCA-2022
Course Name – Advanced Operating Systems
Course Code - MCA202
(Semester II)

Full Marks : 60   **Time : 2:30 Hours**
[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 15=15

1.   *Choose the correct alternative from the following :*

(i)   _____ is evaluated to be a technique of temporarily removing inactive programs from main memory

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

(ii) I/O hardware illustartion is considesred with _____

a) Bus   b) Controller
c) I/O port and its registers   d) All of the mentioned

(iii) The major methods of allocating disk space that are in wide use are evaluated to be

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

(iv) In linked allocation _____ is summarized as

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

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

a) boot loader   b) bootstrap
c) process control block   d) file control block

(vi) In _____ information is associated magnetically on platters.

a) magnetic disks   b) electrical disks
c) assemblies   d) cylinders

(vii) OS is stated to provide platform to run

a) system software   b) application software

c) Both of these   d) None of these

(viii) DOS is defined as ………………

a) frame bit   b) page number

c) system software   d) none

(ix) Which one of the following error will be stated by the operating system?

a) power failure   b) lack of paper in printer

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

(x) To access the services of operating system, the interface is differntiated as

a) System calls   b) API

c) Library   d) Assembly instructions

(xi) Example of single user single tasking os is identified as

a) LINUX   b) WINDOWS

c) DOS   d) None

(xii) Choose the language used for synchronization methods for synchronization

a) C   b) C++

c) Ada   d) JAVA

(xiii) Example of mutually exclusive resource is developed as

a) RAM   b) Printer

c) Both RAM and Printer   d) None

(xiv) For Mutual exclusion choose one 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) all of the mentioned

(xv) For sharable resources, mutual exclusion relates to

a) is required   b) is not required

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

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Explain the Bankers algorithm   (3)
3. Explain the process schduling in multiprocessor opearing systems   (3)
4. Justify that the absence of circular wait implies no deadlock   (3)
5. Explain the run time isssues in mobile operating systems   (3)
6. Describe the page replacement policies in Operating system   (3)

OR

Describe the free space management   (3)

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Report about different deadlock avoidance process   (5)
8. Explain process state diagram with proper diagram.   (5)
9. Explain Context Switching.   (5)
10. Explain scheduling criteria.   (5)
11. Describe the various types of os.   (5)

12. Summarize the process synchronisation in multi processor systems   (5)

OR

Summarize the principles of information security   (5)

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