



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. Candidat	es are required to give their answers in their own
words as far as p	racticable.]

Group-A

1 x 15=15

1.	(Multiple Choice T Choose the correct alternative from the following	• • • • • • • • • • • • • • • • • • •	1
(i)	is evaluated to be a technique of tempora	arily removing inactive programs from	
(ii)	a) Swapping c) Semaphore I/O hardware illustartion is considesred with	b) Spooling d) Scheduler	
(iii)	a) Busc) I/O port and its registersThe major methods of allocating disk space that a	b) Controller d) All of the mentioned are in wide use are evaluated to be	
(iv)	a) Contiguous c) Indexed In linked allocation is summarize	b) Linked d) All of the mentioned d as	
(,	a) each file must occupy a set of contiguous blocks on the disk c) all the pointers to scattered blocks are placed	b) each file is a linked list of disk blocks d) none of the mentioned	i
(v)	together in one location On systems where there are multiple operating syone is evaluated by		
(vi)	a) boot loader c) process control block In information is associated magnetically	b) bootstrap d) file control block y on platters.	
	a) magnetic disks c) assemblies	b) electrical disks d) cylinders	

(vii) OS is stated to provide platform to run a) system software	
8	
(vii) OS is stated to provide platform to run	b) application software
a) system software	d) None of these
c) Both of these	d) None of the
(viii) DOS is defined as	b) page number
a) frame bit	d) none
c) system software	by the operating system?
(ix) Which one of the following error will be stated	by the operating system
a) power failure	b) lack of paper in printerd) all of the mentioned
the falling in the network	the feet is differniated as
(x) To access the services of operating system, the	interface is differnitiated as
a) System calls	b) API
c) Library	d) Assembly instructions
(xi) Example of single user single tasking os is ident	ified 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 deve	loped as
a) RAM	b) Printer
c) Both RAM and Printer	d) None
(xiv) For Mutual exclusion choose one to prevail in t	he 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 relate	s to
a) is required	b) is not required
c) maybe or may not be required	d) none of the mentioned
Gro	up-B
	Type Questions) 3 x 5=:
2. Explain the Bankers algorithm	(3)
3. Explain the process schduling in multiprocessor opearing systems	
4. Justify that the absence of circular wait implies no deadlock	
5. Explain the run time isssues in mobile operating systems	
Describe the page replacement policies in Operati	ng system (3)
	OR .
	(3)
Describe the free space management	
Gro	• 14-4 × 1
Gro (Long Answer	Type Questions) 5 x 6=
Gro (Long Answer - Report about different deadlock avoidance proce	Type Questions) 5 x 6=
Gro (Long Answer	Type Questions) 5 x 6= ss (5) m. (5)
Gro (Long Answer - Report about different deadlock avoidance proce	Type Questions) 5 x 6= ss (5) m. (5)
Gro (Long Answer - Report about different deadlock avoidance proce Explain process state diagram with proper diagra	Type Questions) 5 x 6= ss (5) m. (5)

12. Summarize the process synchronisation in multi processor systems
OR

Summarize the principles of information security

(5)