

Program: BE Computer Engineering

Curriculum Scheme: Revised 2016

Examination: Second Year Semester: IV

Course Code: CSC405 and Course Name: Operating System

Time: 1 hour

Max. Marks: 50

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Note to the students: - All the Questions are compulsory and carry equal marks .

Q1.	An operating system uses Shortest Remaining Time first (SRT) process scheduling algorithm. Consider the arrival times and execution times for the following processes: Process Execution time Arrival time P1 20 0 P2 25 15 P3 10 30 P4 15 45 What is the total waiting time for process P2?
Option A:	5
Option B:	55
Option C:	15
Option D:	40
Q2.	An I/O bound program will typically have:
Option A:	a few very short CPU bursts
Option B:	many very short CPU bursts
Option C:	many very short I/O bursts
Option D:	a few very short I/O bursts
Q3.	Consider a non-negative counting semaphore S. The operation P(S) decrements S, and V(S) increments S. During an execution, 20 P(S) operations and 12 V(S) operations are issued in some order. The largest initial value of S for which at least one P(S) operation will remain blocked is
Option A:	9
Option B:	8
Option C:	7
Option D:	10
Q4.	A process is moved to wait queue when I/O request is made with _____
Option A:	non-blocking, I/O
Option B:	blocking I/O

Option C:	asynchronous I/O
Option D:	synchronous I/O
Q5.	Process information in the current shell can be obtained by using
Option A:	kill
Option B:	bg
Option C:	ps
Option D:	fg
Q6.	In ____ mode, the kernel runs on behalf of the user.
Option A:	user
Option B:	kernel
Option C:	Real
Option D:	Protected
Q7.	For reading input, which of the following system call is used?
Option A:	Write
Option B:	Open
Option C:	Read
Option D:	Change
Q8.	open system call returns the file descriptor as ____
Option A:	Int
Option B:	Float
Option C:	Char
Option D:	Double
Q9.	In Unix, Which system call creates the new process?
Option A:	fork
Option B:	Create
Option C:	Open
Option D:	Close
Q10.	What is interposes communication?
Option A:	communication within the process
Option B:	communication between two process
Option C:	communication between two threads of same process
Option D:	Communication Between shells
Q11.	When several processes access the same data concurrently and the outcome of the execution depends on the order in which the access takes place, is called?
Option A:	dynamic condition
Option B:	race condition
Option C:	essential condition
Option D:	critical condition

Q12.	A semaphore is a shared integer variable _____
Option A:	that can not drop below zero
Option B:	that can not be more than zero
Option C:	that can not drop below one
Option D:	that can not be more than one
Q13.	Given a priori information about the _____ number of resources of each type that maybe requested for each process, it is possible to construct an algorithm that ensures that the system will never enter a deadlock state.
Option A:	minimum
Option B:	average
Option C:	maximum
Option D:	approximate
Q14.	A system is in a safe state only if there exists a _____
Option A:	safe allocation
Option B:	safe resource
Option C:	safe sequence
Option D:	Safe State
Q15.	The _____ table contains the base address of each page in physical memory.
Option A:	Process
Option B:	Memory
Option C:	Page
Option D:	Frame
Q16.	Paging increases the _____ time.
Option A:	Waiting
Option B:	Execution
Option C:	Context switch
Option D:	Opening file
Q17.	Which algorithm of disk scheduling selects the request with the least seek time from the current head positions?
Option A:	SSTF
Option B:	FCFS
Option C:	SCAN
Option D:	LOOK
Q18.	The set of tracks that are at one arm position make up a _____
Option A:	Magnetic disk
Option B:	Hard disk
Option C:	cylinders
Option D:	ssd

Q19.	Which of the following is major part of time taken when accessing data on the disk?
Option A:	Settle time
Option B:	Rotational latency
Option C:	Seek time
Option D:	Waiting time
Q20.	Normally user programs are prevented from handling I/O directly by I/O instructions in them. For CPUs having explicit I/O instructions, such I/O protection is ensured by having the I/O instructions privileged. In a CPU with memory mapped I/O, there is no explicit I/O instruction. Which one of the following is true for a CPU with memory mapped I/O?
Option A:	I/O protection is ensured by operating system routine(s)
Option B:	I/O protection is ensured by a hardware trap
Option C:	I/O protection is ensured during system configuration
Option D:	I/O protection is not possible
Q21.	Which of the following is not a part of all the versions of UNIX?
Option A:	Kernel
Option B:	Shell
Option C:	GUI
Option D:	System call
Q22.	A Process Control Block(PCB) does not contain which of the following?
Option A:	Code
Option B:	Stack
Option C:	data
Option D:	Boot strap
Q23.	Which of the following is not the state of a process?
Option A:	new
Option B:	ready
Option C:	running
Option D:	old
Q24.	In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of _____
Option A:	All process
Option B:	Currently running Process
Option C:	Parent
Option D:	child
Q25.	_____ replacement allows each process to only select from its own set of allocated frames.
Option A:	Local
Option B:	Universal

Option C:	public
Option D:	global