6M

6M

Hal	II Ti	cket Number:				14CS/11	1 304
114							
		II/IV B.	Tech (Suppler	nentary) DEGREE	EXAMINATIO	ON	
No	vem	ber, 2019			Co	ommon to CSE a	and IT
		emester aree Hours				Operating Sys	
			7				
		Question No.1 compulsori ONE question from each u	-			(1X12 = 12) (4X12=48)	
1.		swer all questions	пи.			(1X12=12)	
1.	a)	What are the four comp	onents of a com	muter system?		(17112-12	, ividiks)
	b)	How does multiprogram					
	c)	Differentiate Thread and					
	d)	Define a system call					
	e)	Define wait-for-graph.					
	f)	What is a race condition	?				
	g)	What is a Semaphore?					
	h)	What does each entry in					
	i)	What are the two forms	of fragmentation	n?			
	j)	List attributes of a file.	.				
	k)	Differentiate a file and c	•				
	1)	What do you mean by pa	age fault?				
2	`	E 1: 1: C 1 . O	7	UNIT I			0.1
2.	a)	Explain briefly about Os		r avatam? Evalain in	datail		6M 6M
	b)	What are the functionalit	les of operating		detail.		OlVI
3.	a)	Explain briefly about int	er process com	(OR)			12M
٥.	a)	Explain orking about in	er process com	UNIT II			121
4.	a)	Write about i) Process (Control Block ii)		orithm evaluation	1	6M
••	b)	Consider the following	,				6M
	0)	Company and rone wing	Process	CPU Burst Time	Arrival Time		01.1
			1	3	0		
			2	6	2		
			3	4	4		
			4	5	6		
			5	2	8		
					_		
		Perform non preemptive performance.	CPU schedulin	g algorithms on the	given snapshot a	nd analyze their	
		1		(OR)			
5.	a)	What are the semaphore	s? How do they	implement mutual e	xclusion?		6M
	b)	· · ·					
				UNIT III			
6.	a)	Describe the Safe, unsaf					6M
	b)	Explain the Resource-A	Ilocation Graph	~	ock prevention.		6M
_				(OR)			<i>-</i>
7.	a)	Write the difference bet		_			6M
	b)	What is a Virtual Memory? Discuss the benefits of virtual memory technique 6M					
0	c)	White in detail -1 6"	attellerstar	UNIT IV	atmiotizaca		(N.I.
8.	a) b)	Write in detail about file Describe the concept of			su uctures.		6M 6M
	U)	Describe the concept of	ancetory structi	urcs.			OIVI



(OR) Explain various file access methods with suitable examples.

Compare protection and security of an operating system.

a)

9.

Hall Ticket Number:

14CS/IT304

II/IV B.Tech (Regular) DEGREE EXAMINATION

Computer Science and Engineering

Third Semester OPERATING SYSTEMS

Time: Three Hours Maximum: 60 Marks

Answer ONE question from each unit. (4X12=48 Marks)

1. Answer all questions

Answer Question No.1 compulsorily.

(1X12=12 Marks)

(1X12 = 12 Marks)

a	What are the four components of a computer system?
b	How does multiprogramming increase CPU utilization?
С	Differentiate Thread and Process.
d	List at least three different criteria for designing a CPU scheduling algorithm
e	Define wait-for-graph.
f	What is a race condition?
g	What is a Semaphore?
h	What does each entry in the page table contain?
i	What are the two forms of fragmentation?
j	List attributes of a file.
k	What are the Conflicting trends of I/O devices?
1	What do you mean by page fault?

UNIT - I

2.a	Explain evolution of operating systems.	8M			
2.b	What are the functionalities of operating system? Explain in detail.	4M			
(OR)					
3.a	What are the components of process control block? Explain.	6M			
3.b	Write in detail about the thread libraries.	6M			

UNIT – II

Consider the following set of processes, with the length of the CPU burst given in milliseconds:				en m	6N
	Process	CPU Burst Time	Arrival Time		
	1	3	0		
	2	6	2		
	3	4	4		
	4	5	6		
	5	2	8		
		•			

(OR)

5.a What are the semaphores? How do they implement mutual exclusion?	6M
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What is Readers-Writers problem? Give a solution to Readers-Writers problem using	6M
Monitors	
UNIT – III	
Describe the Safe, unsafe, and deadlock state spaces.	6M
Explain the Resource-Allocation Graph Algorithm for deadlock prevention.	6M
(OR)	
Write the difference between internal and external fragmentation.	6M
What is a Virtual Memory? Discuss the benefits of virtual memory technique	6M
UNIT – IV	
Write in detail about file attributes, operations and types and structures.	6M
Describe the concept of directory structures.	6M
(OR)	•
Explain various file access methods with suitable examples.	6M
Compare protection and security of an operating system.	6M
	Monitors UNIT – III Describe the Safe, unsafe, and deadlock state spaces. Explain the Resource-Allocation Graph Algorithm for deadlock prevention. (OR) Write the difference between internal and external fragmentation. What is a Virtual Memory? Discuss the benefits of virtual memory technique UNIT – IV Write in detail about file attributes, operations and types and structures. Describe the concept of directory structures. (OR) Explain various file access methods with suitable examples.