Hall Ticket No.: | | | | | | | | | | |

SRIT R20

SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

III B. Tech I Sem – Continuous Internal Examinations I – Oct 2022

OPERATING SYSTEMS

[R204GA05503]

(Computer Science & Engineering)

Time: 2 hours **SET – 1** **Max. Marks: 30**

Answer the following questions

Q. No		Questions	Unit	Marks	CO	Cognitive Level
1	a)	Define operating system.	I	2	CO1	Understand
	b)	Draw process layout in memory.	II	2	CO1	Understand
	c)	What is the basic function of paging?	III	2	CO1	Understand
UNIT- I						
2	a)	Distinguish multiprogramming and multi-tasking systems.		4	CO2	Understand
	b)	Illustrate the importance of security and protection.		4	CO2	Understand
OR						
3	a)	Describe different operations performed by the operating system.		4	CO2	Understand
	b)	Explain the illusion of virtualization with a neat diagram.		4	CO2	Understand
UNIT-II						
4	a)	Construct a memory layout diagram for a C program.		4	CO3	Apply
	b)	Write c programs that illustrate the problem of race condition.		4	CO3	Apply
OR						
5	a)	Define cooperative process. Illustrate communication models for ipc with a suitable example.		4	CO3	Apply
	b)	Construct producer-consumer problem with a suitable example.		4	CO3	Apply
UNIT-III						
6		Given page reference string: 1,2,3,2,1,5,2,1,6,2,5,6,3,1,3,6,1, 2,4,3. Compute the number of page faults for LRU, FIFO and optimal page replacement algorithm with frame size=4.		8	CO4	Apply
OR						
7		Illustrate continuous memory allocation with a suitable example.		8	CO4	Apply

Prepared by

Name of the Faculty: Mr. M. Narasimhulu, Assistant Professor, CSE.

Signature of the Faculty:

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SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

III B. Tech I Sem – Continuous Internal Examinations I – Oct 2022

OPERATING SYSTEMS

[R204GA05503]

(Computer Science & Engineering)

Time: 2 hours **SET – 2** **Max. Marks: 30**

Answer the following questions

Q. No		Questions	Unit	Marks	CO	Cognitive Level
1	a)	Draw memory layout for multi-programmed system.	I	2	CO1	Understand
	b)	Draw PCB.	II	2	CO1	Understand
	c)	What are the differences between paging and segmentation?	III	2	CO1	Remember
UNIT-I						
2	a)	Explain about the dual mode operation in OS with a neat block diagram.		4	CO2	Understand
	b)	Illustrate operating system services with a neat block diagram.		4	CO2	Understand
OR						
3	a)	Define System Call. Exemplify open system call Scenario.		4	CO2	Understand
	b)	Illustrate various computing environments that need OS.		4	CO2	Understand
UNIT-II						
4	a)	Construct critical section problem with a suitable example.		4	CO3	Apply
	b)	Construct IPC for message-passing Model with a suitable example.		4	CO3	Apply
OR						
5	a)	Write a C program to create a child process that display list of files in current working directory.		4	CO3	Apply
	b)	Draw Gantt chart and calculate average turnaround and waiting time using FCFS, SJF. Process | Burst P1 | 2 P2 | 5 P3 | 8		4	CO3	Apply
UNIT-III						
6		Given page reference string: 3, 4, 2, 1, 6, 3, 1, 5, 2, 6, 1, 2, 5, 1, 2, 3, 2, 1. Compute the number of page faults for LRU, FIFO and optimal page replacement algorithm with frame size=3.		8	CO4	Apply
OR						
7		Demonstrate the causes of trashing with a suitable diagram.		8	CO4	Apply

Prepared by

Name of the Faculty: Mr. M. Narasimhulu, Assistant Professor, CSE.

Signature of the Faculty: