MODEL QUESTION PAPER

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

SRIT R20

SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

III B. Tech I Sem – Semester End Examinations – Regular – Dec 2022

OPERATING SYSTEMS

[R204GA05503]

(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 60**

PART-A

(Compulsory Question)

***

1		Answer the following: (10 X 02 = 20 Marks)	
	a)	How parameters can pass to system calls?	
	b)	Give an example of a Process State Transition diagram.	
	c)	What is the basic function of paging?	
	d)	Define trapdoor.	
	e)	Define system threats.	

PART-B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT-1

2	a)	Explain about the dual mode operation in OS with a neat block diagram.	**[5M]**
	b)	Describe multiprogramming and Multi-tasking systems.	**[5M]**
		(OR)	
3		Explain how operating systems used in a variety of computing environments.	**[10M]**

UNIT-2

4		Construct Critical section problem with a suitable example.	**[10M]**
		(OR)	
5		Write a C program to create a child process that display list of files in current working directory.	**[10M]**

UNIT-3

6		Given six memory partitions of 300 KB, 600 KB, 350 KB, 200 KB, 750 KB, and 125 KB (in order), how would the first-fit, best-fit, and worst-fit algorithms place processes of size 115 KB, 500 KB, 358 KB, 200 KB, and 375 KB (in order)? Rank the algorithms in terms of how efficiently they use memory.	**[10M]**
		(OR)	
7		Explain any two solutions of Recovery from Deadlock	**[10M]**

UNIT-4

8		Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The current head position is at cylinder 143. The queue of pending requests is: 86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130. What is the total distance that the disk arm moves to satisfy all the pending requests for each of the following Disk scheduling algorithms?	**[10M]**

	a) SSTF b) SCAN	
	(OR)	
9	What is File system and what are the various File access methods? Explain.	**[10M]**
	UNIT-5	
10	Illustrate role-based access Control with suitable diagrams.	**[10M]**
	(OR)	
11	Explain about access matrix in detail.	**[10M]**

*****