

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)	Classify Resources that is managed by OS.
	b)	What are the benefits of multithreaded programming?
	c)	What do you mean by swapping?
	d)	Classify the services provided by the I/O subsystem.
	e)	List the goals of protection

PART-B

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

UNIT-1

2	a)	Explain the illusion of virtualization with a neat diagram.	[5M]
	b)	Illustrate the importance of Security and Protection.	[5M]

(OR)

3		Illustrate operating system services with a neat block diagram.	[10M]
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UNIT-2

4		What are the essential properties of critical section implementation? Explain.	[10M]
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(OR)

5		Describe the Peterson's solution for the race condition with algorithm	[10M]
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UNIT-3

6		Illustrate Continuous Memory Allocation with a suitable example.	[10M]
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(OR)

7		Discuss about optimal page replacement algorithm. If the contents of reference string is: 0, 2, 1, 6, 4, 0, 1, 0, 3, 1, 2, 1 and there are four frames available in the memory then find page fault and page fault rate using optimal page algorithm.	[10M]
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UNIT-4

8		Illustrate the methods implemented in an I/O hardware with suitable diagrams.	[10M]
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(OR)

9		Illustrate various types of storage attachment with suitable diagrams.	[10M]
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UNIT-5		
10	Define system threat. Give example of system threats.	[10M]
(OR)		
11	Illustrate Authentication methods in detail.	[10M]
