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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 (Answer the following, 5 X 2 = 10 Marks) Marks CO | I IIII | ie: 3 | nours | wax. | Mark | s: ou |
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| (Answer the following, 5 X 2 = 10 Marks) Marks CO | | | | | | |
| 1 a) What is virtualization? | | | | | | |
| b) What is the use of shared memory systems? [2M] CO1 c) What is paging in memory management? [2M] CO1 d) What is the use of RAID structure? [2M] CO1 e) Define Malware. [2M] CO1 PART-B (Answer all five units, 5 X 10 = 50 Marks) UNIT-1 2 a) What is the difference between Multitasking and Multiprogramming? Discuss. b) What are the different ways of the user interfacing with the Operating System? Discuss. b) What are the different resources managed by Operating System? [5M] CO2 Briefly discuss. b) Discuss the different system services supported for program [5M] CO2 UNIT-2 4 a) With the help of a state diagram Illustrate the process states. [5M] CO3 b) Illustrate critical section problem with suitable example. [5M] CO3 OR 5 a) What is CPU Scheduling? Explain any one scheduling algorithm. b) Explain how Semaphores is implemented in IPC. [5M] CO3 UNIT-3 6 a) Illustrate swapping with a suitable diagram. [5M] CO4 b) Explain the ways of handling the Deadlocks. [5M] CO4 UNIT-3 6 a) What is Thrashing? Discuss the possible causes for thrashing. [5M] CO4 UNIT-4 8 a) Illustrate any one disk scheduling algorithm with an example. [5M] CO4 | | | | | CO | BL |
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| | 8 | a) | | [5M] | CO5 | L3 |
| | | - | | | | L2 |
| OR | | | | | | |
| 9 a) Discuss the purpose of different levels in RAID structure. [5M] CO5 | 9 | a) | | [5M] | CO5 | L2 |
| b) Briefly discuss the different access methods supported in files. [5M] CO5 | | b) | Briefly discuss the different access methods supported in files. | [5M] | CO5 | L2 |

| UNIT-5 | | | | | | | | |
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| 10 | a) | Discuss the kind of system threats encountered. | [5M] | CO6 | L2 | | | |
| | b) | Illustrate the implementation of access matrix. | [5M] | CO6 | L2 | | | |
| OR | | | | | | | | |
| 11 | a) | How Cryptography as a Security tool will protect the system? Discuss. | [5M] | CO6 | L2 | | | |
| | b) | Discuss the different methods used by attackers to breach security. | [5M] | CO6 | L2 | | | |

^{*}CO refers the Course Outcome (CO1, CO2, CO3, CO4, CO5 and CO6)
*BL refers the Blooms Level (L1, L2, L3, L4, L5, L6)