**SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY::ANANTHAPURAMU**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

# Assignment-I

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Title:** | **Operating Systems** | | | | **Course Code:** | **R204GA05503** |
| **Class & Sem:** | **III B. Tech I Sem** | | | | **Regulations:** | **SRIT R20** |
| **Course Structure:** | **Theory** | **Tutorial** | **Lab** | **Credits** | **Core/Elective:** | **Core** |
| **3** | **1** |  | **3** |
| **Instructor 1:** | **Mr. M. Narasimhulu** | | | **Instructor 2:** |  | |

**Assignment Questions: Academic Year: 2022-23**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Questions** | **Marks** | **CO** | **Cognitive Level** |
| **Unit-I** | | | | |
| **1** | What is operating system? Describe multiprogramming and Multi- tasking systems. | 2 | CO1 | Understand |
| **2** | Explain different operations performed by the operating system. | 2 | CO1 | Understand |
| **Unit-II** | | | | |
| **3** | Construct a memory layout diagram for a C Program. | 2 | CO2 | Apply |
| 4 | Construct producer-consumer problem with a suitable example. | 2 | CO3 | Apply |
| **Unit-III** | | | | |
| **5** | 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. | 2 | CO4 | Apply |

* Submit the Assignment to the instructor on or **before 25-11-2022.**
* Last date for submitting Assignment-1: **25-11-2022**

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

# Assignment-II

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Title:** | **Operating Systems** | | | | **Course Code:** | **R204GA05503** |
| **Class & Sem:** | **III B. Tech I Sem** | | | | **Regulations:** | **SRIT R20** |
| **Course Structure:** | **Theory** | **Tutorial** | **Lab** | **Credits** | **Core/Elective:** | **Core** |
| **3** | **1** |  | **3** |
| **Instructor 1:** | **Mr. M. Narasimhulu** | | | **Instructor 2:** |  | |

**Assignment Questions: Academic Year: 2022-23**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Questions** | **Marks** | **CO** | **Cognitive Level** |
| **Unit-III** | | | | |
| **1** | A system has four processes and five resources. The current allocation and maximum needs are as follows:    Find the minimum Available matrix that makes the system in safe state. | 2 | CO3 | Apply |
| **Unit-IV** | | | | |
| **2** | Explain the different Disk scheduling algorithms with their comparisons. | 2 | CO5 | Understand |
| 3 | 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? a) SSTF b) SCAN | 2 | CO5 | Apply |
| **Unit-V** | | | | |
| **4** | Illustrate various access matrix implementation techniques. | 2 | CO6 | Understand |
| **5** | Illustrate encryption methods with suitable scenarios. | 2 | CO6 | Understand |

* Submit the Assignment to the instructor on or **before 11-12-2022.**
* Last date for submitting Assignment-2: **11-12-2022**