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

**SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY**

**MODEL QUESTION PAPER**

**SRIT R20**

**(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)

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 |  | | Answer the following: (10 X 02 = 20 Marks) | |
|  | a) | | Define System Call. | |
|  | b) | | Draw PCB. | |
|  | c) | | What is the purpose of reallocation Register? | |
|  | d) | | What attributes are considered for designing the file structure for an Operating System? | |
|  | e) | | Define Access Matrix. | |
| **PART-B**  (Answer all five units, 5 X 10 = 50 Marks) | | | | |
|  | | | | |
| **UNIT-1** | | | | |
| 2 | a) | Illustrate operating system operations with neat sketches. | | **[5M]** |
|  | b) | Explain in detail the role of Operating system as a resource Manager. | | **[5M]** |
| (OR) | | | | |
| 3 | Illustrate various computing environments that need OS. | | | **[10M]** |
|  |
| **UNIT-2** | | | | |
| 4 | Construct a memory layout diagram for a C Program. | | | **[10M]** |
|  |
| (OR) | | | | |
| 5 | Define Cooperative Process. Illustrate Communication Models for IPC with a suitable example. | | | **[10M]** |
|  |
| **UNIT-3** | | | | |
| 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. Compare the number of page faults for LRU, FIFO and Optimal page replacement algorithm. | | | **[10M]** |
|  |
| (OR) | | | | |
| 7 | Explain about the bankers algorithm for deadlock avoidance | | | **[10M]** |
|  |
| **UNIT-4** | | | | |
| 8 | Explain the different Disk scheduling algorithms with their comparisons | | | **[10M]** |
|  |
| (OR) | | | | |
| 9 | What is File system and what are the various File access methods? Explain. | | | **[10M]** |
|  |
| **UNIT-5** | | | | |
| 10 | Explain how Morris internet worm occurs with a suitable diagram. | | | **[10M]** |
|  |
| (OR) | | | | |
| 11 | Define Access control. Explain revocation of Access rights. | | | **[10M]** |
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