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**Date: 29-01-2021.**

**II.B.TECH- I-SEM (R22)-II MID Examinations-January-2024 Date: 24/01/2024**

**Subject: Operating Systems Time:01:30 TO 03:00 PM**

**Branch: CSE, IT, CSC, CSD&CSM Marks: 30 M**

***Answer all Questions in Part -A & Answer any FOUR Questions in Part -B***

**PART-A 5x2=10 M**

Q1. **How** does the process communicate in inter-process communication? **1 [CO3]**

Q2. **Define** demand paging. **1 [CO4]**

Q3. **Write** about the page replacement algorithm. **6 [CO4]**

Q4**. List** out theFile types. **1 [CO5]**

Q5. **What** is meant by pipe? **List** the types of pipes. **1 [CO3]**

**PART-B 4\*5=20 M**

Q6. **Discuss** the concept of a named pipe (FIFO) and its usage in IPC. **6 [CO3]**

Q7.Consider the following page reference string: 7,0,1,2,0,3,0,4,2,3,0,3,0,3,2,1,2,0,1,7,0,1.

**How** many page faults would occur for the LRU and Optimal page replacement algorithms,

Assuming three frames and all frames are initially free? **1 [CO4]**

Q8. a) **Discuss** in detail about different file access methods. **6 [CO5]**

b) Briefly **explain** the directory organization. **2 [CO5]**

Q9. **What** is the reader-writer's problem? **Explain** its solution with semaphore. **1, 2 [CO3]**

Q10. **Explain** about performance of demand paging and pure demand paging? **2 [CO4]**

Q11. **Describe** the advantages of Contiguous allocation and drawbacks of contiguous

Allocation of disk space. **1 [CO4]**

SCHEME OF EVALUATION

PART-A

|  |  |  |  |
| --- | --- | --- | --- |
| S NO | THEORY | MARKS | TOTAL |
| 1 | **How** does the process communicate in inter-process communication? | 2 | 2 |
| 2 | **Define** demand paging.. | 2 | 2 |
| 3 | **Write** about the page replacement algorithm. | 2 | 2 |
| 4 | **List** out theFile types. | 2 | 2 |
| 5 | **What** is meant by pipe? **List** the types of pipes. | 2 | 2 |

PART-B

|  |  |  |  |
| --- | --- | --- | --- |
| S NO | THEORY | MARKS | TOTAL |
| 6 | a) **Discuss** the concept of a named pipe (FIFO) and its usage in IPC  (or) | 5 | 5 |
| 7 | a) Define page fault , LRU and Optimal page replacement algorithm.  b) Consider the following page reference string: 7,0,1,2,0,3,0,4,2,3,0,3,0,3,2,1,2,0,1,7,0,1.  **How** many page faults would occur for the LRU and Optimal page replacement algorithms, Assuming three frames and all frames are initially free? | 2    3 | 5 |
| 8 | a) **Discuss** in detail about different file access methods.    b) Briefly **explain** the directory organization.  (or) | 2.5    2.5 | 5 |
| 9 | **a) What** is the reader-writer's problem?  b) **Explain** its solution with semaphore. | 2.5  2.5 | 5 |
| 10 | **Explain** about performance of demand paging and pure demand paging?    (or) | 5 | 5 |
| 11 | **Describe** the advantages of Contiguous allocation and drawbacks of contiguous  Allocation of disk space. | 5 | 5 |