SCS1301 –Operating System

Assignment – II

**Part – A**

1. In concurrent Processing the outcome of the execution depends on the particular order in which the access takes place is called\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a variable whose value indicates the status of a common resource

3. When two or more processes need some resource to complete their execution that is held by the other process is \_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_ keeps track of each and every memory location either it is allocated to some process or it is free

5. When enough total memory space exists to satisfy a request, but it is not contiguous. This situation is called\_\_\_\_\_\_\_\_\_\_\_

Part-B

1. Give short note on critical section?

2. Check whether the following table is in safe or unsafe state?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Allocation | | Request | |
|  | Resource | | Resource | |
|  | R1 | R2 | R1 | R2 |
| P1 | 1 | 0 | 0 | 1 |
| P2 | 0 | 1 | 1 | 0 |
| P3 | 0 | 1 | 0 | 0 |

3. Write the solution of Reader Writer Problem with semaphore.

4. Give brief note on Translation Lookaside Buffer(TLB)

5. Consider a virtual memory system with physical memory of 8GB, a page size of 8KB and 46 bit virtual address. Assume every page table exactly fits into a single page. If page table entry size is 4B then how many levels of page tables would be required.

Part C

1. Explain elaborately the bankers algorithm with suitable example.