

Operating Systems Principles and Programming [18ECSC202]

ISA 2 – Reading Checklist

Have you understood

Sl. No.	Concept	Status
1.	Why deadlock happens?	
2.	The system model of deadlock	
3.	How do you characterize the deadlock?	
4.	What is a resource allocation graph? And how does it help to detect deadlock?	
5.	What is deadlock prevention and why is it necessary?	
6.	What is deadlock avoidance?	
7.	What is safe sequence and safe state?	
8.	Deadlock avoidance algorithms (Resource Allocation Graph and Bankers)	
9.	Deadlock detection algorithms (Resource Allocation Graph and Bankers)	
10.	How do you recover from deadlock?	
11.	What are the different file types (regular, directory, FIFO, device)?	
12.	What is a file system, properties, attributes?	
13.	The different ways to change file permissions?	
14.	What is an Inode?	
15.	UNIX kernel support for files – the three file tables	
16.	Directory files and commands ()	
17.	Differences between hard and symbolic links	
18.	Concept and programs for file and record locking.	
19.	What are the differences between stream and file pointer?	
20.	What happens when you open or close a file? (Kernel support for files)	
21.	File APIs (read, creat, read, write, close, fcntl, lseek, link, unlink, stat, fstat)	
22.	The background of memory, need, protection and address binding	
23.	The difference between logical and physical address	
24.	The concept of dynamic loading, Dynamic linking and shared libraries	
25.	Why does memory use swapping and need for contiguous memory allocation?	
26.	The differences between fixed and variable size partition and the techniques to allocate memory	
27.	Which of them is better: first, best or worst fit?	
28.	What are internal and external fragmentations?	
29.	What is the need for segmentation, its technique, hardware, protection, address conversion and limitation?	
30.	What is the need for paging, its technique, hardware, protection, address conversion and limitation?	
31.	What is a frame table?	
32.	What is a TLB? And what is its significance?	
33.	How are shared pages handled in paging?	
34.	What are the three important design structures of a page table and their efficiency analysis?	
35.	Programs and problems as relevant to concepts	