

● **Assignment No.1:Assembler**

- What is two pass assembler?
- What is the significance of symbol table?
- Explain the assembler directives EQU, ORIGIN.
- Explain the assembler directives START, END, LTORG.
- What is the use of POOLTAB and LITTAB?
- How literals are handled in pass I?
- What are the tasks done in Pass I?
- How error handling is done in pass I?
- Which variant is used in implementation? Why?
- Which intermediate data structures are designed and implemented in PassI?
- What is the format of a machine code generated in PassII?
- What is forward reference? How it is resolved by assembler?
- How error handling is done in pass II?
- What is the difference between IS, DL and AD?
- What are the tasks done in Pass II?

● **Assignment No.2:Macro Processor**

- Define macro?
- Define purpose of pass-1 of two pass macro processor

- List out types of macro arguments
- What is the use of MDT-index field in MNT?
- What we store in ALA?
- What is macro expansion?
- Define purpose of pass-2 of two pass macro processor
- What is positional arguments?
- What is the use of MDT-index field in MNT?
- What is the use of MNT table while processing macro call?

• **Assignment No.3:DLL**

- What is DLL
- Significance of DLL.
- Advantages/ Disadvantages of DLL
- Difference between static link library and dynamic link library
- What is Native Interface?
- Reasons to use JNI.
- What is shared object ?

• **Assignment No.4:Semaphore and Mutex**

- What is synchronization of threads?
- Explain reader writer problem
- Explain wait and sequence functions
- What is semaphore.
- What are different types of semaphore

• **Assignment No.5 : CPU Scheduling**

- What are the types of CPU scheduler?
- What is the difference between long and short term scheduling?
- Logic of program?
- What is preemptive and non-preemptive scheduling?
- What are types of scheduling algorithms?
- Why Priority scheduling may cause low-priority processes to starve?
- What are the goals of scheduling?
- Define the difference between preemptive and nonpreemptive scheduling.
- Which scheduling algorithm is best? Why?

Assignment No.6: First fit,next fit

1. Which algorithm is best and why?
2. Need of allocating blocks to jobs?
3. What is the time taken by each algorithm for execution?

• Assignment No.7: Page Replacement

- What is virtual memory?
- 2. Explain working of LRU page replacement algorithm
- 3. Explain working of OPTIMAL page replacement algorithm
- 4. Which Page replacement algorithm is best?
- 5. Explain what is Belady's Anomaly?
- 6. Explain the scenario in which page replacement algorithm is used?
- 7. Explain what is page fault?
- 8. Explain what is paging scheme?
- 9. Explain what is counting based page replacement algorithms?