LEARNING ISSUE GUIDE: PROCESSES

Suggested Scope:

1. Process Definition (in the context of OS)

2. Process States
   - State-Transition Diagram
   - Name and define each state

3. Context Switching
   - Definition
   - Diagram to illustrate context switching and describe the series of events during a context switch

4. Process Scheduling Queues and Schedulers
   - Name and explain each type of process scheduling queues
   - Name and describe each type of process schedulers

5. Correlate process scheduling queues/schedulers against the process state transitions

6. Cooperating Processes and Inter-process Communication

Suggested Practice Questions:

Refer to Review Exercise 3

Additional Practice Questions:
(You can use this as an example in your peer teaching notes)

a. Modern PCs are mostly **Time-Sharing Systems**, where multiple jobs or processes have to be handled and executed by the **CPU switching** between these processes very frequently.

Draw a diagram to show how the CPU can switch between **TWO** processes in the system. Indicate clearly when each process executes or idles. Assume that the two processes are **P0** and **P1**.

b. Processes can be described as either **I/O-bound** processes or **CPU-bound** processes. The long term scheduler selects these processes from the **job queue** and places them in the **ready queue**.

i. Briefly explain the function of the **job queue** and the **ready queue**.

ii. What is the difference between an **I/O-bound** process and a **CPU-bound** process?

iii. Briefly explain the impact of the long term scheduler selecting too many I/O bound processes into the system.