**Activity seven Questions**

1. What is producer consumer problem?

* It is a type of a classic synchronization problem

1. What is mutual exclusion?

* Halting a process to be run.

1. What is monitor?

* Wait() or Signal()

1. Define Deadlock.

* A situation that occurs in OS when a process is forced to wait because another process is holding the demanded resources.

1. What are the four types of deadlocks, explain all the four types?

* Mutual Exclusion – if both processes need the same resources the later process is put on hold until the 1st process is finished, and resources are released.
* Hold and wait – 2nd process holds a resource and waits to acquire additional resources which is currently being held by the 1st process.
* No preemption – a resource cannot be taken from a process unless it is released.
* Circular wait – process 1 is waiting for a resource held by process 2 which is held by a third process causing a circular chain.

1. Expand RAG and explain.

* RAG (Resource Allocation Graph) is a directed graph representing the Deadlock situation.

1. What is deadlock avoidance?

* Finding the minimum number of resources required so that a deadlock will not occur.

1. Explain deadlock detection?

* Finding if and how there is a deadlock in the RAG