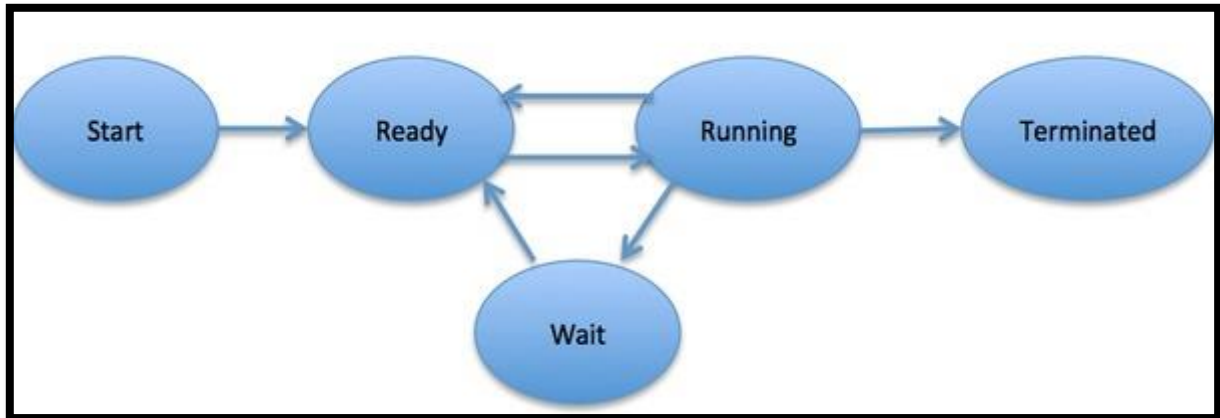# Q7

A process is an 'active' entity, as opposed to a program, which is considered a 'passive' entity. A single program can create many processes when run multiple times; for example, when we open a .exe or binary file multiple times, multiple instances begin (multiple processes are created).

Process Life Cycle

Q8

1. Turnaround time – It is the time interval from the time of submission of a process to the time of the completion of the process. It can also be considered as the sum of the time periods spent waiting to get into memory or ready queue, execution on CPU and executing input/output.
2. Response time – It is the elapsed time between an inquiry on a system and the response to that inquiry. Used as a measurement of system performance, response time may refer to service requests in a variety of technologies. Low response times may be critical to successful computing.
3. Throughput – It refers to the performance of tasks by a computing service or device over a specific period. It measures the amount of completed work against time consumed and may be used to measure the performance of a processor, memory and/or network communications.

Q9

Process scheduling is the activity of the process manager that handles the removal of the running process from the CPU and the selection of another process based on a particular strategy. Process scheduling is an essential part of Multiprogramming operating systems. Such operating systems allow more than one process to be loaded into the executable memory at a time and the loaded process shares the CPU using time multiplexing.

S.N.	Long-Term Scheduler	Short-Term Scheduler	Medium-Term Scheduler
1	It is a job scheduler	It is a CPU scheduler	It is a process swapping scheduler.
2	Speed is lesser than short term scheduler	Speed is fastest among other two	Speed is in between both short and long-term scheduler.
3	It controls the degree of multiprogramming	It provides lesser control over degree of multiprogramming	It reduces the degree of multiprogramming.

4	It is almost absent or minimal in time sharing system	It is also minimal in time sharing system	It is a part of Time sharing systems.
5	It selects processes from pool and loads them into memory for execution	It selects those processes which are ready to execute	It can re-introduce the process into memory and execution can be continued.

Q10