1. Discuss how the following pairs of scheduling criteria conflict in certain settings.
a) Average turnaround time and maximum waiting time
b) I/O device utilization and CPU utilization

2. Define the difference between preemptive and non-preemptive scheduling. State why non-preemptive scheduling is not a good choice in a computer center for interactive users.

3.
a) How does SRT differ from SPN?
b) What feature is common between SPN and SRT?

4. Consider the following set of processes:

Process	Arrival Time	Service Time
A	0	3
B	1	5
C	3	2
D	9	5
E	12	2

a) Show the schedule using FCFS, RR with quantum of 1, SPN, SRT and HRRN.
b) Find the normalized turnaround time of each process for the scheduling algorithms in a).

Self-test

1. The _____ scheduler executes most frequently and makes the fine-grained decision of which process to execute next.
A) long-term
B) I/O
C) medium-term
D) short-term

2. Response time in an interactive system is an example of:
A) user-oriented criteria for long-term scheduling policies
B) system-oriented criteria for short-term scheduling policies
C) system-oriented criteria for long-term scheduling policies
D) user-oriented criteria for short-term scheduling policies

3. Giving each process a slice of time before being preempted is a technique known as _____ .
A) FCFS (first-come-first-serve)
B) RR (round-robin)
C) SPN (shortest-process-next)
D) priority

4. The need to know or estimate required processing time for each process and lack of preemption are difficulties with the _____ scheduling algorithm
A) FCFS (first-come-first-serve)
B) RR (round-robin)
C) SPN (shortest-process-next)
D) priority

5. To determine the quantum size for round-robin, we should take the following into consideration. _____
A) Quantum should be smaller than most of the CPU bursts.
B) Quantum should be large compared to the context switching time.
C) Quantum should be small in order to preempt the running process frequently.
D) Quantum should be larger than the largest CPU burst.

6. _____ scheduling algorithms have a risk of the possibility of starvation.
(i) FCFS (first-come-first-serve)
(ii) SPN (shortest-process-next)
(iii) RR (round-robin)
(iv) priority
A) (ii) only
B) (ii) and (iv)
C) (iii) only
D) (i) and (iii)