Q) What is the average waiting time for the processes below using FCFS scheduling.

| Process | Duration | Order | Arrival Time |
|---|---|---|---|
| P1 | 24 | 1 | 0 |
| P2 | 3 | 2 | 0 |
| P3 | 4 | 3 | 0 |

**a) 17**
b) 10.5
c) 20
d) 15

**Solution:**
Waiting time for P1 = 0
Waiting time for P2 = 24
Waiting time for P3 = 24+3 = 27

Avg. Waiting time = (0+24+27)/3 = 17

Q) What is the average waiting time for the processes below using SRTF scheduling algorithm.

| Process | Arrival Time | Burst Time |
|---|---|---|
| $P_1$ | 0.0 | 7 |
| $P_2$ | 2.0 | 4 |
| $P_3$ | 4.0 | 1 |
| $P_4$ | 5.0 | 4 |

a) 4
**b) 3**
c) 4.25
d) 5

**Solution:**

SRTF is a preemptive version of SJF.
Execution order: P1(2 seconds) → P2 (2 seconds) → P3 (1 second) → P2 (2 seconds) → P4 (4 seconds) → P1 (5 seconds)

Waiting time for P1: 9 seconds
Waiting time for P2: 1 second
Waiting time for P3: 0 seconds
Waiting time for P4: 2 seconds

Avg. Waiting time = (9+1+0+2)/4 = 3

Q) The transmission delay incurred in sending a 1500 bytes packet over a 100 Mbps link is

a) 15secs
b) 120 micro secs
c) 12 micro secs
d) 100 secs

**Solution:**

100 Mb can be sent in 1 second
1500*8 bits can be sent in _____?

(1500*8)/(100*10^6) = 120 * 10^-6 = 120 micro seconds

Q) In a very lightly loaded network without many network packets and also on a very high bandwidth link, what would be the nodal delay if proessing delay is 10micro seconds and propagation delay is 100 micro seonds?

a) 110 micro seconds
b) 130 micro seconds
c) 150 micro seconds
d) 200 micro seconds

**Solutions:**

100 micro seconds + 10 micro seconds = 110 micro seconds

Q) If the Length of the packet to be transferred is 7.5 Mbits and the transmission speed is 1.5Mbps, then the transmission delay from one host to the next host will be:

a) 5 seconds
b) 15 seconds
c) 10 seconds
d) Insufficient information

**Solution:**

1.5 *10^6 bits can be sent in 1 second
7.5 * 10^6 bits can be sent in _____?

(7.5*10^6)/(1.5*10^6) = 5 seconds