

2+3.

a) FCFS:

[illegible]

b) LIFO

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
1	E	E	E																	
2			H	E	E	E	E	E	E	E										
3						H	H	H	H	H	H	H	H	H	H	H	H	H	E	E
4							H	H	H	H	H	H	H	E	E	E	E	E		
5										H	E	E	E							

c) Round robin quantum=1

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
1	E	E	H	H	H	H	H	H	H	H	H	H	E							
2			E	E	E	H	H	H	H	H	H	H	H	E	E	E	E			
3						E	H	H	H	H	H	H	H	H	H	H	H	E		
4							E	E	E	H	H	H	H	H	H	H	H	H	E	E
5										E	E	E								

d) SJF

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
1	E	E	E																	
2			H	E	E	E	E	E	E	E										
3						H	H	H	H	H	E	E								
4										H	H	H	E	E	E					
5							H	H	H	H	H	H	H	H	H	E	E	E	E	E

e) SRT

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
1	E	E	E																	
2			H	E	E	H	H	H	H	H	H	H	H	H	H	E	E	E	E	E
3						E	E													
4							H	E	E	H	H	H	E	E	E					
5										E	E	E								

f) HRRN:  $RR = (W + S) / S$

[illegible]

4.

a)

- 1) There is competition for non-sharable resources.
- 2) The resources are requested on a partial basis (so, not all at once).
- 3) Once a resource has been allocated, it can't be forcibly retrieved.

b)

- i) 1<sup>st</sup> condition.
- ii) 1<sup>st</sup> condition.
- iii) 3<sup>rd</sup> condition.
- iv) 2<sup>nd</sup> condition.

c) I would suggest merging the two requirements into one system, thus eliminating the 2<sup>nd</sup> condition.

5.

a) IF  $((\text{sum}(\text{time-A-east})/\text{num-A-east}) + (\text{sum}(\text{time-A-west})/\text{num-A-west}))/2 > (\text{sum}(\text{time-B})/\text{num-B})$  THEN X:=1 ELSE X:=0

b) The program should take into account the traffic flow through road A as this is the main road and prioritizes it whenever possible.