Workshop 09

Q1.   What are the permissible delivery orderings for the combination of FIFO and total-ordered multicasting in the following figure (also see Figure. 8-15 on page 352 in the Textbook)?

Process P1	Process P2	Process P3	Process P4
sends m1	receives m1	receives m3	sends m3
sends m2	receives m3	receives m1	sends m4
	receives m2	receives m2	
	receives m4	receives m4	

Q2.   The printers of the same brand may produce random errors in some exceptional conditions. If such printers are used to build up a local printer server that should guarantee that at any time there are at least two printers are running in correct status, how many such printers are required to make up this printer server?

Q3.   The following three cases for multicasting can be classified into more than four multicasting schemes. Try to classify them and explain your classification.

(a)

Process 1	Process 2	Process 3
Sends m1	Receives m1	Receives m2
Sends m2	Receives m2	Receives m1

(b)

Process 1	Process 2	Process 3	Process 4
Sends m1	Receives m1	Receives m3	Sends m3
Sends m2	Receives m3	Receives m1	Sends m4
	Receives m2	Receives m2	
	Receives m4	Receives m4	

(c) * P1 always has the priority.

Process 1*	Process 2	Process 3	Process 4
Sends m1	Receives m1	Receives m1	Sends m3
Sends m2	Receives m2	Receives m2	Sends m4
	Receives m3	Receives m3	
	Receives m4	Receives m4	

END OF THE WORKSHOP