

are as follows:

Order# Estimated Operation Time(hours) Arrival Order Due Date(hours)

	Graphics	Printing	Binding		
A	5	1	4	2nd	10
B	2	2	5	1st	11
C	3	2	1	4th	7
D	0	3	0	5th	6
E	2	1	4	3rd	12

If multiple orders are waiting to be processed at the same operation, at any point in time, the manager wants to use (**local**) SPT to determine which of the waiting orders has processing priority at that particular operation. Assume that machine setup times for Graphics and Binding are one-half (1/2) hour each, and none (0) for Printing. These setup times occur immediately prior to processing an order (including the very 1st order) at the operation, and may be viewed as an extension of the order processing time at that operation. The manager would like you to develop a schedule for these jobs – **show him your Gantt Chart**, and provide the following information:

- (a) What is the average length of time that an order remains at XPRES? (b) What is the total Time that each order must spend waiting to be processed (An order also waits while the machine is being setup.)?
 (c) What is the Average Number of orders that can be found in the processing center at any point in time? Assume that, upon completion, each order is immediately delivered to the customer. (d) On average, what proportion of the time is the XPRES facility busy? (e) On average, how late is a job expected to be completed?