CLASS: MBA   SEMESTER: IV
BRANCH: MBA   SESSION: SP/2023

SUBJECT: MT559 MANUFACTURING PLANNING AND CONTROL

TIME: 3 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data handbook/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	What are the different types of manufacturing systems? Analyze their advantages and limitations.	[5]	1	4
Q.1(b)	Describe the different manufacturing strategies and analyze their benefits and disadvantages.	[5]	2	4
Q.2(a)	Describe Group technology, JIT and FMS and analyze their benefits and suitability to various manufacturing scenarios.	[5]	3	4
Q.2(b)	Compare and analyze MRP and Kanban for inventory management.	[5]	2	4
Q.3(a)	Refer to figure 1. Find out (i) Lead time, (ii) value addition time. What is OPT? Which step you will consider for the OPT based planning and why?	[5]	3	5
Q.3(b)	Refer to figure 1. Customer demand is 42 units/day and the available working hours in a day are 7 Hrs. Compute the (i) takt time and (ii) difference between desired and existing productivity of the process. Note: C/T stands for cycle time.	[5]	4	5
Q.4(a)	Write short notes on (i) EOQ (ii) Re-order point (iii) Ordering lead time (iv) safety stock (v) Computer integrated manufacturing	[5]	1	3
Q.4(b)	Consider the following, Annual average demand (D) = 1800 units. Fixed cost of ordering (Co) = \$30 per order. Inventory carrying cost rate (Cc) = 15% of Unit Procurement cost. Unit procurement cost (Cu) = \$2.00/unit. Find out the optimal order size (Q) for a basic inventory management model. Mention the assumptions made for the inventory management model.	[5]	4	4
Q.5(a)	Write notes on the application of (i) routing (ii) sequencing and (iii)scheduling and highlight their importance in the optimization of the production process.	[5]	4	3
Q.5(b)	Consider the following table of processing times in hours for 6 jobs and 3 machines. Find the optimum sequence for minimum elapsed time. Also compute the machine idle times for all 3 machines.	[5]	4	5

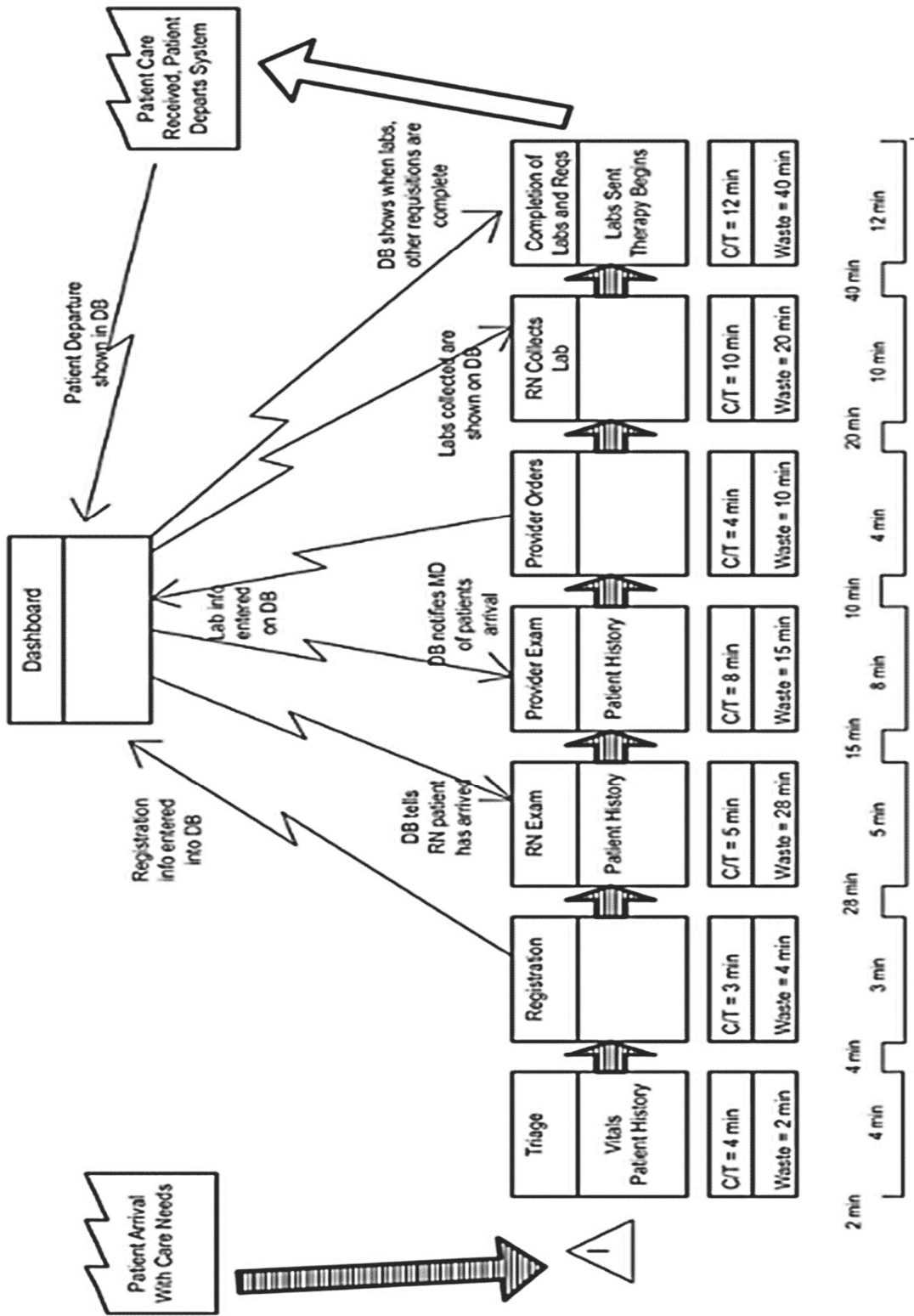| Jobs	1	2	3	4	5	6
A	12	15	10	18	13	15
B	5	8	9	7	9	10
C	17	6	11	9	12	6

Figure-1

::::::25/04/2023 E:::::