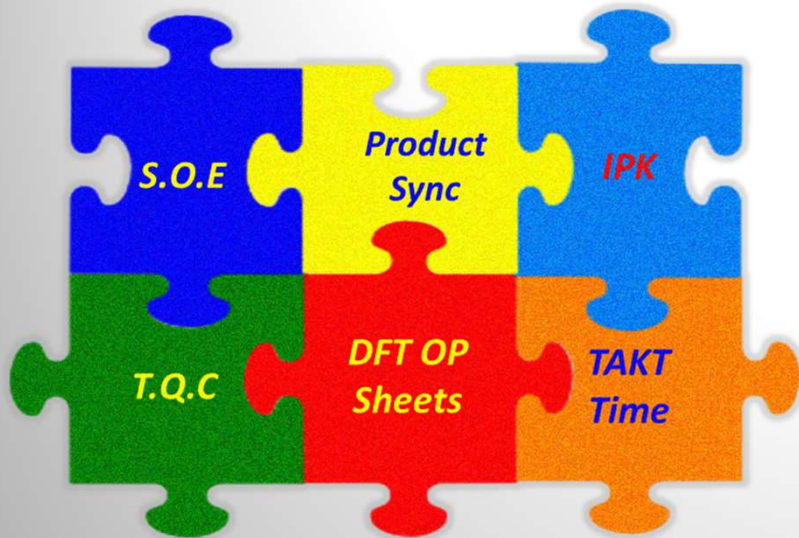


WORKSHOP 1

Designing the DFT Flow Foundation & TQC

World Class Business Strategy



Define the Sequence of Events

Establish Quality Criteria Against Work

Relationship of Processes

Master of Operational Cycle Time

Calculate Team TAKT Times

Step One to Graduation

WORKSHOP 1

Designing the DFT Flow Foundation

Note: Students work independently on Questions 1-8.

1. The DFT business strategy has the following objectives:

- | | | |
|---|------|-------|
| A. Demand Driven Flow Production | TRUE | FALSE |
| B. Design In-Process PPM Quality | TRUE | FALSE |
| C. Reduce scheduling lead times | TRUE | FALSE |
| D. Adjust daily product mix and volume in direction of demand | TRUE | FALSE |

2. DFT focuses on all elements of product cost. Rank each element according to the highest percentage of product cost.

1. _____

2. _____

3. _____

Elements: Labor, Material, Overhead

WORKSHOP 1

Designing the DFT Flow Foundation

3. A. A key element of the DFT line design is the Product Synchronization. P-Sync's are:
 - 1) Flow diagrams of the factory layout
 - 2) Relationship of the processes in a flow, to build a product
- B. Takt time calculations are used in the DFT line design to establish:
 - 1) The process target for operational work content
 - 2) The manufacturing lead time for the product
 - 3) The actual work content time for the DFT line design
- C. Required work in the Sequence of Events is:
 - 1) Always value added
 - 2) May or may not be value added
 - 3) Always necessary to meet the product specification

WORKSHOP 1

Designing the DFT Flow Foundation

4. What is the objective of DFT?
- A. Reduce lead time in our manufacturing process by adopting smaller ERP lot sizes and increasing the number of kits we issue to production.
 - B. Focus on reducing the amount of raw material on hand to support Just-In-Time manufacturing by moving inventory back to the supplier.
 - C. Establish a business strategy, with a technology and quality foundation, that changes product volume and mix everyday without impacting quality or line design.
 - D. Lower the water in an Agile manufacturing process to expose rocks of waste which can later be mined for high value minerals.
5. In DFT the best definition of a Process is:
- A. Similar kinds of work.
 - B. Definition of functional work defined on a product routing.
 - C. A grouping of work performed by machine and/or labor related to a common volume.
 - D. A machine.

WORKSHOP 1

Designing the DFT Flow Foundation

6. Move time is value added if it is necessary to take the product to its consuming operation?

TRUE

FALSE

7. Scheduling and issuing material is required to build your product so they are required and value-added work.

TRUE

FALSE

8. The identification and elimination of non-value-added work in the sequence of events, is the starting foundation for the Process Perfection Teams.

TRUE

FALSE

WORKSHOP 1 – HAND-IN ANSWER SHEET

Designing the DFT Flow Foundation

NAME _____
TEAM _____
CLASS DATE _____

ANSWERS

NOTE: Hand in your answer sheets for questions 1 -8 before moving on to the remaining questions as a team.

1. A. TRUE FALSE
- B. TRUE FALSE
- C. TRUE FALSE
- D. TRUE FALSE

2. HIGHEST PERCENTAGE
1. _____
 2. _____
 3. _____

WORKSHOP 1 – HAND-IN ANSWER SHEET

Designing the DFT Flow Foundation

NAME _____
TEAM _____
CLASS DATE _____

ANSWERS

NOTE: Hand in your answer sheets for questions 1 -8 before moving on to the remaining questions as a team.

3. A. 1 2

B. 1 2 3

C. 1 2 3

4. A. B. C. D.

5. A. B. C. D.

6. TRUE FALSE

7. TRUE FALSE

8. TRUE FALSE

WORKSHOP 1

Designing the DFT Flow Foundation

Note: All teams work independently on questions 9-13.

You will be assigned to a team that will create a sequence of events for the Model 3200 DFT-Rex Truck.

9. On Exhibit 1, complete the S.O.E. to build a Model 3200. Build one product to verify your SOE. Be sure to establish Total Quality Criteria and value-added checks for each element of work. Note “red line” any S.O.E. steps or quality criteria requirements that you wish to clarify or correct.

Note: Your Exhibit 1 has the sequence of events established for your product. Add the work times and identify the value added-steps.

10. Based upon your SOE, establish a total standard time for each step of work and record it on Exhibit 1. Note: Have at least two members build your product to verify the sequence and time standard for each step.

11. Establish a total standard time from the complete sequence of events and record the total standard time on the bottom after the last sequence of events on the work sheet.

12. What is your team’s confidence level in their ability to build their product in their SOE’s total time?

____ _ %

WORKSHOP 1

Designing the DFT Flow Foundation

13. As the CEO, you have made the decision to implement DFT company wide. You have (2) Plants, and each team will use the plants Design Capacities, to determine their end of line TAKT Time. Also, use your team's SOE's actual time, and the calculated TAKT time, to define the number of operations that each plant will require to achieve their daily rate at capacity.

- Demand at capacity is See Below units per day.

$$\text{TAKT} = \frac{H_e(S)}{D_c}$$

- The effective work hours are 7.3 hours (438 minutes), single shift.
- Use Total Standard Time from your team's Sequence of Events.

$$\# \text{ OPS} = \frac{\text{ACTUAL TIME}}{\text{TAKT}}$$

MODEL 3200 WITH OPTIONS				
TEAMS	PLANT 1/2 DESIGN CAP.	TAKT TIME	TOTAL STANDARD TIME	NUMBER OF OPERATIONS REQUIRED
TEAM 1	12/20	/		
TEAM 2	200/325	/		
TEAM 3	3/5	/		
TEAM 4	754/900	/		
TEAM 5	0.5/2	/		
TEAM 6	850/1250	/		
TEAM 7	45/85	/		