



BPN2023: INDUSTRIAL ENGINEERING

REVIEW OF CHAPTER 9: CAPACITY AND FACILITY PLANNING

Direction:

With hand writing, answer the following questions. You are required to submit the answer no later than 7 August 2017.

Questions:

1. Define the following terms:
 - a. Capacity planning
 - b. Facility planning
 - c. Facility layout
 - d. Line balancing
2. Why capacity planning and facility planning are important?
3. Two critical decisions in capacity planning are about when to increase the capacity and how much to increase. If you are a production manager, explain your decision.
4. List 5 objectives of facility layouts.
5. Explain 6 characteristics of each type of layout (i.e., product, process and fixed-position layouts) with examples of each type of layout.
6. Explain the main objectives of ...
 - a. Designing process layout.
 - b. Designing product layout.

7. The Speedy Pizza Palace is revamping its order-processing and pizza-making procedures. In order to deliver fresh pizza fast, six elements must be completed.

Work element	Precedence	Performance time (minutes)
A. Receive order	-	2
B. Shape dough	A	1
C. Prepare toppings	A	2
D. Assemble pizza	B, C	3
E. Bake pizza	D	3
F. Deliver pizza	E	3

- Construct a precedence diagram and compute the lead time for the process.
- If the demand for pizzas is 120 per night (5:00 p.m. to 1:00 a.m.), what is the cycle time?
- Balance the line and calculate its efficiency.
- How would the line change to produce 160 pizzas per night?