

$$\frac{1}{\frac{3}{2}} = \frac{2}{3}$$



Supply Chain Management (TLO-11046)

Fall 2018 – Period II – 4 ECTS

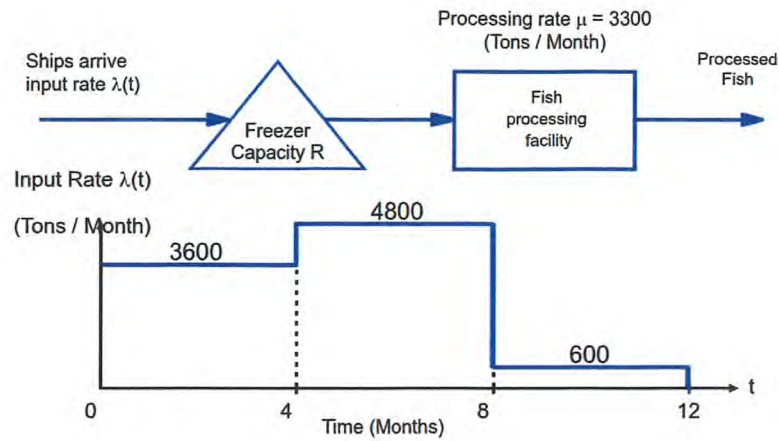
Notes:

- Please attempt to answer all questions (partial credit will be given when appropriate).
- You are not allowed to share materials, use your notes, phone or laptop.
- You are allowed to use you own calculator, but cannot share it with other students.
- Good Luck!

- 1) A manufacturer within a global supply chain asks you to advise how to implement supply chain risk management. What would be your suggestions for the management team? (Please write up your answer in half a page) (20 point).
- 2) Explain briefly the key differences among quantitative and qualitative methods in forecasting (Please write up your answer in half a page) (20p).
- 3) Consider a production process of a product, consisting of four tasks using four machines:
 - a. Which task is the bottleneck? Why? (10p)
 - b. What is the overall process capacity (units/hour)? (5p)
 - c. What is the utilization of each task if demand is 1.5 unit/hour? (5p)
 - d. If the demand forecast for the product is constant (does not change in next years), what would be your suggestions for managers to change the capacity (here the capacity just includes machines)? Please explain (10p) .

Task	Task Time (hour)	Number of units produced (unit)
Machine I	1.6	4
Machine II	3.6	6
Machine III	1.5	5
Machine IV	2.0	2

- 4) Draw an inventory buildup diagram for the fish processing example (from the capacity management lecture) when demand pattern (input rate) is the same, but processing capacity is 3300 tons/month, and there is infinite freezer capacity.



- What is the average inventory? (5p)
- How does the buildup diagram change when you try to accept all input (fish catch) but freezer capacity is limited to 4200 tones? (10p)
- What is the average inventory in this case? (5p)
- The manager of company wants to minimize its inventory cost, but keeps its capacity (fish processing facility) as the same level as before. What would be your suggestion? Please explain it. (10p)