

Unit 8 - Week 6

Course outline

How does an NPTEL online course work?

Practice Assignment

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

- Lecture 16.4: Modeling Oscillations Part-II
- Lecture 17.1: Modeling Non-linear Relations: Introduction
- Lecture 17.2: Modeling Non-linear Relations: Table or Lookup function
- Lecture 18.1: Formulation Non Linear Relationship Table Functions: Part I
- Lecture 18.2: Formulation Non Linear Relationship Table Functions: Part II
- Lecture 19.1: Stock Management Structure: Part I
- Lecture 19.2: Stock Management Structure: Part II
- Download Videos
- Weekly Feedback
- Quiz : Assignment 06
- Study Material for Week 6

Week 7

Week 8

Text Transcripts

Assignment 06

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2020-03-11, 23:59 IST.

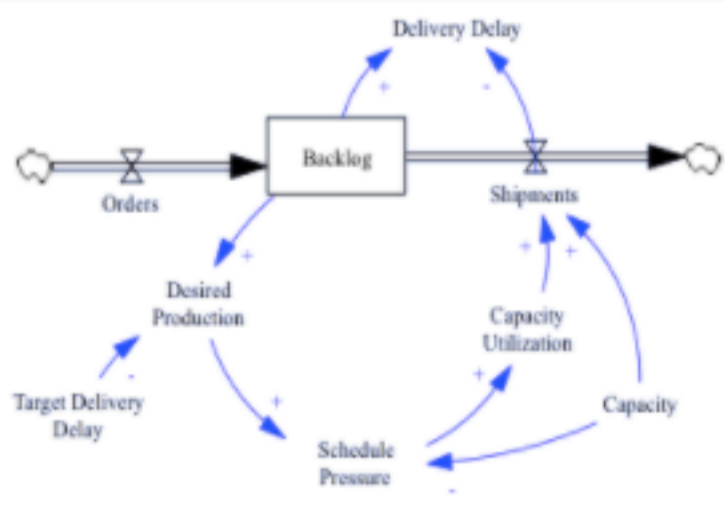
1) Consider the following SFD model.

The model represents a firm operating a make-to-order system, where orders accumulate in backlog until completed and shipped. The shipments are determined by the size of the backlog but are limited by firm's production capacity.

The table function relating input Schedule Pressure (dimensionless) and output Capacity Utilisation (dimensionless) is as follows: [(0,0), (0.2,0.3), (0.4,0.5), (0.6,0.7), (0.8,0.9), (1,1), (1.2, 1.1), (1.4,1.15), (1.6,1.2),(1.8,1.2),(2.0,1.2)]

At some time during the simulation run, the following values are observed,

- Backlog = 220 Boxes
- Target Delivery Delay = 2 days
- Capacity = 100 Boxes/ Day



Answer Q1 and Q2 based on above data.

The value for the *Schedule pressure* will be _____ (dimensionless).

Hint

No, the answer is incorrect. Score: 0
Accepted Answers: (Type: Numeric) 1.1

2 points

2) The value for the Shipments will be _____ boxes/ week.

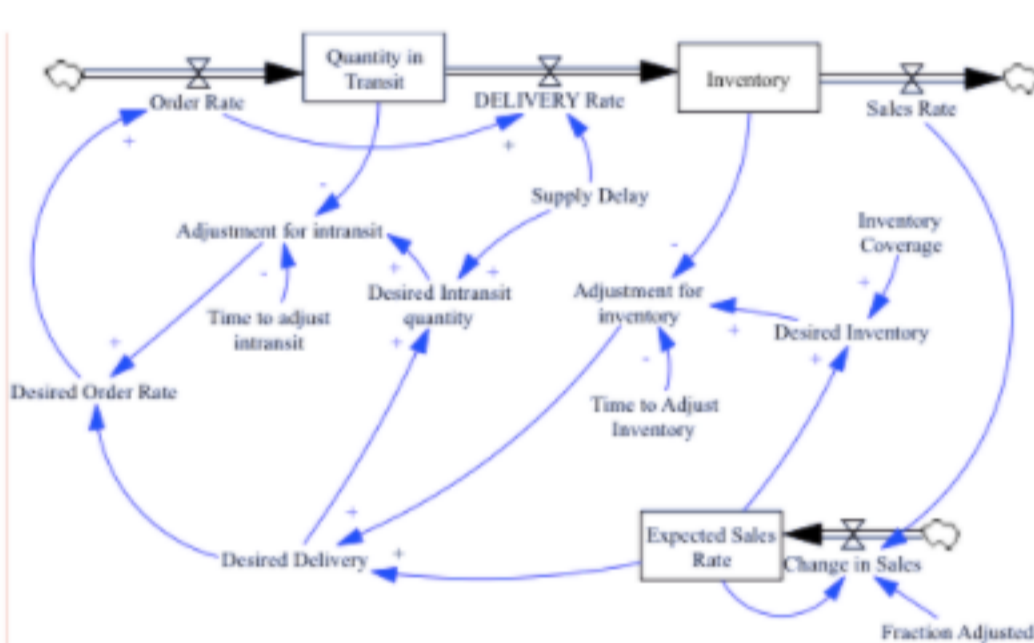
Hint

No, the answer is incorrect. Score: 0
Accepted Answers: (Type: Numeric) 105

2 points

3) Consider the standard stock management structure as given in SFD model below. At some time during the simulation run, the following values are observed,

- Quantity in Transit = 360 boxes/ week
- Inventory = 190 boxes
- Expected Sales Rate = 105 boxes/ week
- Inventory Coverage = 2 week
- Supply Delay = 3 weeks
- Time to Adjust Inventory = 2 weeks
- Time to adjust intransit = 3 weeks



Answer Q3 and Q4 from data above.

The value for the *Adjustment for inventory* will be _____ boxes/ week .

Hint

No, the answer is incorrect. Score: 0
Accepted Answers: (Type: Numeric) 10

2 points

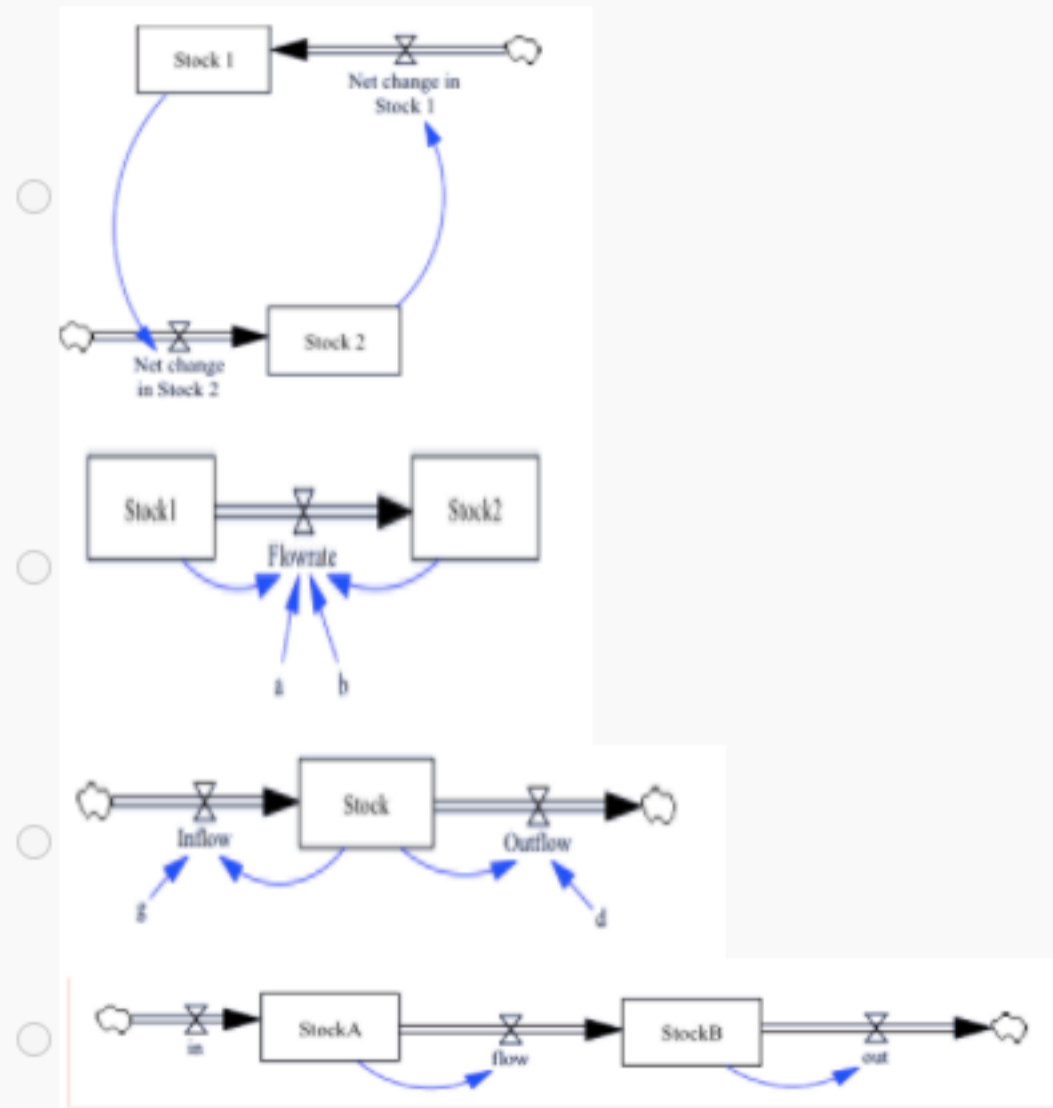
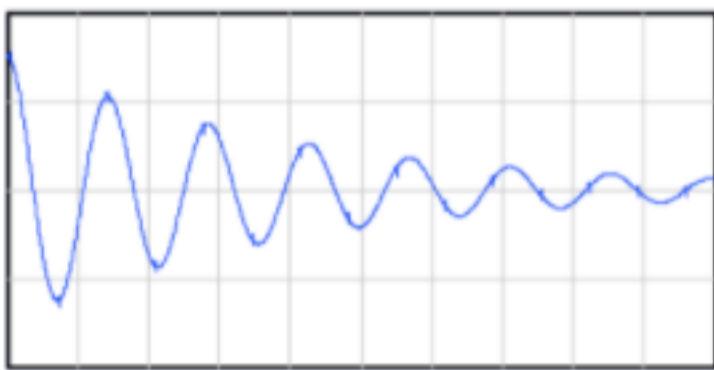
4) The value for the Adjustment for WIP will be _____ boxes/ week.

Hint

No, the answer is incorrect. Score: 0
Accepted Answers: (Type: Numeric) -5

2 points

5) Which of the following generic structure can produce the following behaviour over time.



No, the answer is incorrect. Score: 0

Accepted Answers:



2 points