Assignment 0

Due on 2020-01-31, 23:59 UTC

Week 1

1. In the System Dynamics, the term dynamics refers to an...
   a. Just Motion
   b. Change over time
   c. Failing the time
   d. All of the above
   
   a. Change over time
   
2. Modeling is a process (true in the real world, as the commonly used definition for it can be:...
   a. Predicting money & time
   b. Estimation of mathematical functions
   c. A methodology used as a tool to investigate the problems and their solutions
   d. None of the above
   
   b. Estimation of mathematical functions
   
3. “A System is an entity that mandates its existence through the mutual interaction of its parts.”...
   a. True
   b. False

   a. True

Week 2

1. Define the following terms: control system, open-loop system, closed-loop system.
   a. System
   b. Control
   c. Open Loop
   d. Closed Loop
   
   a. System

2. Define the following terms: feedback, forward path, backward path.
   a. Feedback
   b. Forward Path
   c. Backward Path
   
   a. Feedback

Week 3

1. Match the behavior below with the following description:
   a. Linear
   b. S-shaped
   c. Exponential
   d. Time delays
   
   a. Linear

2. Choose the correct option as the above figure
   a. A, B, C, D, O, D, O
   b. A, B, C, D, B, A, D, E, C, D, O
   c. A, B, C, D, O, D, B, A, D
   d. No response is correct.
   
   b. A, B, C, D, B, A, D, E, C, D, O

3. There are three simulation techniques, namely, Discrete Event Simulation, Agent-Based Modeling, and System Dynamics. Amongst these three, there is a round-based hybrid simulation which integrates:...
   a. System Dynamics and Agent-Based Modeling
   b. System Dynamics along with Discrete Event Simulation
   c. Agent-Based Modeling and Discrete Event Simulation
   d. All of the above
   
   d. All of the above

4. Given a system (an open system) where water is leaking out of a hole in a pipe. Initially, a balloon shaped like a cone (in liters) is connected to the system. After 10% of water leaves the system, at what point, time, is it leaking?...
   a. 9 liters
   b. 10 liters
   c. 90 liters
   d. No response is correct.
   
   d. No response is correct.

Week 4

1. Consider this system (Y = X). Suppose we observe the values of X and Y as following:...
   a. 0.2, 0.3, 0.1, 0.7, 0.2, 0.7, 0.6
   b. 0.2, 0.1, 0.3, 0.7, 0.2, 0.7, 0.6
   c. 0.2, 0.3, 0.1, 0.7, 0.2, 0.7, 0.6
   d. No response is correct.
   
   b. 0.2, 0.1, 0.3, 0.7, 0.2, 0.7, 0.6

Assignments

1. No response is correct.

Troubleshoot

1. No response is correct.

Accreditation

1. No response is correct.

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1. No response is correct.