

A “Primer on Model-based System Engineering” (Long & Scott)

Link to book http://catsr.ite.gmu.edu/SYST490/mbseprimer2ndedition_full.pdf

Please provide short, concise answers

WHAT IS A MODEL? (page 31)

- 15) Identify and describe the 4 elements of a model of a system?
- 16) Identify and describe the 4 characteristics of a model of a system?
- 17) According to Long & Scott, a model is an integrated expression of the system using a “System Design Language (SDL)” Identify and describe three properties of a system captured in the SDL. (page 36)
- 18) In DoDAF which class acts as the key element? What does this key element do?
- 19) Capturing the behavior of a system requires the SDL to have 5 properties. Identify and define the 5 properties.
- 20) What is a black box?
- 21) What does the term “behavior preservation under decomposition” mean? Explain.
- 22) What is the difference between the functional/behavioral domain and the architecture/synthesis domain. Explain with examples.
- 23) What is a “control construct” and how is used in system modeling.
- 24) What does each of the following graphical models represent?
 - a. Functional Flow Block Diagram (FFBD)
 - b. Sequence Diagram
 - c. Activity Diagram
 - d. Enhanced FFBD
 - e. Functional Hierarchy Diagram
 - f. N-Squared Diagram