

Chapter 1 - Introduction to Modeling

True / False

1. Models that suggest a desirable course of action are called descriptive models

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.1 Introduction

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

2. In modeling situations where it is not possible to write an equation for an output in terms of the inputs, there may still be a mathematical procedure for calculating outputs from inputs.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.1 Introduction

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

3. In a descriptive model, the manager first wants to build a model that reflects the current situation.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.4 A Seven Step Modeling Process - Step 4 Model Verification

OTHER: BUSPROG-Analytic DISC- Mathematical Modeling

Chapter 1 - Introduction to Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

4. One of the advantages of spreadsheet models is that they allow managers to ask what-if questions.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.2 A Capital Budgeting Example - An Optimization Model

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

5. One of the arguments that management science practitioners have used to criticize the emphasis on specific models is that they do not provide the correct answer.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.3 Modeling Versus Models

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

6. The overall modeling process typically done in practice always requires seven steps: define the problem, collect and summarize data, develop a model, verify the model, select one or more suitable decisions, present the results to the organization, and finally implement the model and update it through time.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

Chapter 1 - Introduction to Modeling

TOPICS: 1.1 Introduction
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

7. Modeling is a process where the essence of a theoretical problem is extracted into a model, spreadsheet or otherwise.

- a. True
- b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.4 A Seven Step Modeling Process - Step 1 Problem Definition
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

8. In some applications, an analyst might present several alternative solutions from a model, and let the organization choose the best one.

- a. True
- b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False

HAS VARIABLES: False

TOPICS: 1.4 A Seven Step Modeling Process - Step 3 Model Development
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

9. A management science model is typically initiated when an organization believes it has a problem.

- a. True
- b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False

Chapter 1 - Introduction to Modeling

HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 4 Model Verification
OTHER: BUSPROG-Analytic DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

10. Data are often not in the required form, in which case it is the analysts' job to gather the right data and put it into an appropriate format.

- a. True
- b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 3 Model Development
OTHER: BUSPROG-Analytic DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

11. A good model should achieve the right balance between being too simple and too complex.

- a. True
- b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 4 Model Verification
OTHER: BUSPROG-Analytic DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

12. Verification is typically the most difficult phase of the modeling process, from a mathematical perspective.

- a. True
- b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

Chapter 1 - Introduction to Modeling

QUESTION TYPE: True / False
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 5 Optimization and Decision Making
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

13. As models become larger and more complex, heuristic solutions are often adequate, even though they are not necessarily optimal solutions.

- a. True
- b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 7 Model Implementation
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

14. The best strategy for implementation of a model is to involve key people in the organization in the project when the model is ready for testing and verification.

- a. True
- b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: True / False
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 7 Model Implementation
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

15. A completed model typically marks the end of the modeling process.

- a. True
- b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy

Chapter 1 - Introduction to Modeling

Easy |Bloom's Knowledge
Easy |Bloom's Comprehension
QUESTION TYPE: True / False
HAS VARIABLES: False
TOPICS: 1.6 Why Study Management Science?
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

Multiple Choice

16. Which of the following is a type of model that is key to virtually every management science application?

- a. Heuristic model
- b. Queuing model
- c. Mathematical model
- d. Regression model

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.2 A Capital Budgeting Example - A Descriptive Model
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

17. Which of the following is not one of advantages of mathematical models?

- a. Mathematical models enable managers to understand the problem better
- b. Mathematical models allow analysts to employ a variety of mathematical solution procedures
- c. The mathematical modeling process itself, if done correctly, often helps "sell" the solution
- d. Mathematical models help reduce the cost of obtaining a solution

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 3 Model Development
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

Chapter 1 - Introduction to Modeling

18. Before trusting the answers to what-if scenarios from a spreadsheet model, a manager should attempt to:

- a. validate the model
- b. make sure all possible scenarios have been investigated
- c. check the mathematics in the model
- d. sense-check the model

ANSWER: a

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

TOPICS: 1.2 A Capital Budgeting Example - A Descriptive Model

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

19. Optimization models are useful for determining:

- a. sensitivity to inputs
- b. whether the inputs are valid or not
- c. what the manager should do
- d. the value of the output under the current conditions

ANSWER: c

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

TOPICS: 1.4 A Seven Step Modeling Process - The Model as a Beginning, Not an End

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

20. Management science has often been taught as a collection of:

- a. theories
- b. problems
- c. models
- d. topics

ANSWER: c

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice

Chapter 1 - Introduction to Modeling

HAS VARIABLES: False
TOPICS: 1.6 Why Study Management Science?
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

21. The primary difference between management science and business analytics is
- management science is quantitative and business analytics is qualitative.
 - business analytics uses more current quantitative methods.
 - business analytics uses big data to solve business problems and provide insights.
 - business analytics is a subset of management science.

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

22. Defining an organization's problem includes:
- specifying the organization's objectives
 - collecting the organization's historical data
 - defining the model of the problem
 - sensitivity analysis

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.3 Modeling Versus Models
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

23. Which of the following type of model is used when inputs are modeled with probability distributions?
- Simulation model
 - Deterministic model
 - Heuristic model
 - Spreadsheet model

Chapter 1 - Introduction to Modeling

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 5 Optimization and Decision Making
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

24. A first step in determining how well a model fits reality is to:
- a. check whether the inputs are correct
 - b. see if the sensitivity analysis is correct
 - c. check whether the model is valid for the current situation
 - d. try some what-if scenarios to see if the model is able to obtain solutions

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 1 Problem Definition
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

25. Which of the following is *not* necessarily a property of a good model?
- a. The model represents the client's real problem accurately
 - b. The model is as simple as possible
 - c. The model is based on a well-known algorithm
 - d. The model is one the client can understand

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 2 Data Collection
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

Chapter 1 - Introduction to Modeling

26. Which of the following is a possible cause if a model's outputs for certain inputs are not as expected?

- a. The certain inputs may not be correct
- b. The model could be too detailed of an approximation of the actual situation
- c. The mathematics in the model are inadequate
- d. The analyst's expectations are not correct

ANSWER: d

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

TOPICS: 1.4 A Seven Step Modeling Process - Step 3 Model Development

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

27. Which of the following is *not* one of the guiding principles for a heuristic?

- a. Common sense
- b. Intuition
- c. Trial and error
- d. Optimality

ANSWER: d

POINTS: 1

DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

TOPICS: 1.4 A Seven Step Modeling Process - Step 4 Model Verification

OTHER: BUSPROG-Communication DISC- Mathematical Modeling

DATE CREATED: 5/17/2017 3:39 PM

DATE MODIFIED: 10/21/2017 8:35 PM

28. Which of the following is *not* one of the desired conditions for a successful model implementation?

- a. The people who will run the model understand how to enter appropriate inputs
- b. The people who will run the model are able to run what-if analysis
- c. The people who will run the model are able to modify it
- d. The people who will run the model are able to interpret the model's outputs correctly

ANSWER: c

POINTS: 1

DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

Chapter 1 - Introduction to Modeling

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 5 Optimization and Decision Making
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

29. The most frequent cause of a failed implementation of a model is:

- a. the model is incorrect
- b. the analyst fails to communicate how to use the model
- c. the data for the model is unavailable
- d. the model is too complex

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
Moderate |Bloom's Knowledge
Moderate |Bloom's Comprehension

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 6 Model Communication to Management
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM

30. Which of the following is *not* one of the reasons for the new-found relevance of management science models?

- a. Modeling is an important way to think about problems in general
- b. Modeling is often now a legal requirement
- c. The business world is increasingly driven by numbers
- d. Modeling helps develop intuition for problems

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
Easy |Bloom's Knowledge
Easy |Bloom's Comprehension

QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
TOPICS: 1.4 A Seven Step Modeling Process - Step 7 Model Implementation
OTHER: BUSPROG-Communication DISC- Mathematical Modeling
DATE CREATED: 5/17/2017 3:39 PM
DATE MODIFIED: 10/21/2017 8:35 PM