

# Test Bank for Microbiology Systems Approach 6th Kelly

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# Microbiology Systems Approach 6th Edition by Kelly CH01

ANSWERS ARE LOCATED IN THE SECOND PART OF THIS DOCUMENT

**TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.**

1) A hypothesis must be tested many times before it can be considered a theory.

- ☐ true
- ☐ false

## Question Details

Learning Outcome : 01.12 Explain what is important about the scientific method.

Learning Outcome : 01.04 Explain the theory of evolution and why it is called a theory.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01a Ability to apply the process of science: Demonstrate an ability to formulate h

Bloom's : 1. Remember

Section : 01.02

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

2) Many chronic medical conditions have been found to be associated with microbial agents.

- ☐ true
- ☐ false

## Question Details

Learning Outcome : 01.06 Summarize the relative burden of human disease caused by microbes, emphasize

ASM Topic : Module 05 Systems

ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h

Bloom's : 1. Remember

Section : 01.04

Topic : History of Microbiology

Topic : Microbial Roles

Accessibility : Keyboard Navigation

3) All bacteria and archaea are microorganisms, but only some eukaryotes are microorganisms.

- ☐ true
- ☐ false

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.07 Differentiate among bacteria, archaea, and eukaryotic microorganisms.

ASM Topic : Module 02 Structure and Function

Bloom's : 2. Understand

Section : 01.05

Topic : Cellular Organization

ASM Objective : 02.01 The structure and function of microorganisms have been revealed by the use of m

Accessibility : Keyboard Navigation

4) The scientific method involves formulating a tentative explanation, called the hypothesis, to account for what has been observed or measured.

- ☐ true
- ☐ false

## Question Details

Learning Outcome : 01.12 Explain what is important about the scientific method.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01a Ability to apply the process of science: Demonstrate an ability to formulate h

Bloom's : 1. Remember

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

5) Members of the same species share many more characteristics compared to those shared by members of the same kingdom.

- ☐ true
- ☐ false

## Question Details

Learning Outcome : 01.13 Differentiate among the terms nomenclature, taxonomy, and classification.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tre

Bloom's : 2. Understand

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

6) The names of the three proposed domains are: Bacteria, Protista, and Eukarya.

# Microbiology Systems Approach 6th Edition by Kelly CH01

- ☐ true
- ☐ false

## Question Details

Learning Outcome : 01.16 Draw a diagram of the three major domains.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.**

7) Microorganisms are best defined as organisms that \_\_\_\_\_.

- A) cause human disease
- B) lack a cell nucleus
- C) are infectious particles
- D) are too small to be seen with the unaided eye
- E) can only be found growing in laboratories

## Question Details

Learning Outcome : 01.01 List the six types of microorganisms we will be studying in this book.

ASM Topic : Module 02 Structure and Function

Bloom's : 1. Remember

Section : 01.01

Topic : Cellular Organization

ASM Objective : 02.01 The structure and function of microorganisms have been revealed by the use of microscopy

Accessibility : Keyboard Navigation

8) Which of the following are not considered microorganisms?

- A) Mosquitoes
- B) Protozoa
- C) Bacteria
- D) Viruses
- E) Fungi

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.01 List the six types of microorganisms we will be studying in this book.

ASM Topic : Module 05 Systems

ASM Objective : 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

Bloom's : 2. Understand

Section : 01.01

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

9) Helminths are \_\_\_\_\_.

- A) bacteria
- B) protozoa
- C) molds
- D) parasitic worms
- E) infectious particles

## Question Details

Learning Outcome : 01.01 List the six types of microorganisms we will be studying in this book.

ASM Topic : Module 02 Structure and Function

ASM Objective : 02.04 While microscopic eukaryotes (for example, fungi, protozoa, and algae) carry ou

Bloom's : 1. Remember

Section : 01.01

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

10) Among these types of microorganisms, the \_\_\_\_\_ are noncellular.

- A) viruses
- B) helminths
- C) protozoans
- D) bacteria

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.01 List the six types of microorganisms we will be studying in this book.

Learning Outcome : 01.08 Identify two types of acellular microorganisms.

ASM Topic : Module 02 Structure and Function

Bloom's : 1. Remember

Section : 01.01

Section : 01.05

Topic : Cellular Organization

ASM Objective : 02.05 The replication cycles of viruses (lytic and lysogenic) differ among viruses a

Accessibility : Keyboard Navigation

11) Studies of the immune response to an infection caused by microorganisms would be performed by a/an \_\_\_\_\_.

- A) hypersensitivity specialist
- B) epidemiologist
- C) immunologist
- D) geomicrobiologist

## Question Details

Learning Outcome : 01.02 Identify multiple professions using microbiology.

ASM Topic : Module 05 Systems

ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h

Bloom's : 1. Remember

Section : 01.01

Topic : Microbial Roles

Accessibility : Keyboard Navigation

12) Which of the following pairs of career descriptions and work tasks is not correctly matched?

- A) Industrial microbiologist -- manipulate bacterial strains to be less pathogenic
- B) Agricultural microbiologist -- identify bacterial causes of crop disease
- C) Public health microbiologist -- track the incidence of AIDS in a population
- D) Medical microbiologist -- identify the cause of a bladder infection at a hospital lab

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.02 Identify multiple professions using microbiology.

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 06.03 Humans utilize and harness microorganisms and their products.

Bloom's : 1. Remember

Section : 01.01

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**13)** A scientist who studies the influence of microbes in the formation of caves is called a/an \_\_\_\_\_.

- A) geomicrobiologist
- B) astrobiologist
- C) epidemiologist
- D) immunologist

## Question Details

Learning Outcome : 01.02 Identify multiple professions using microbiology.

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 06.01 Microbes are essential for life as we know it and the processes that support li

Bloom's : 1. Remember

Section : 01.01

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**14)** Astrobiology is considered a sub-discipline of microbiology because \_\_\_\_\_.

- A) life elsewhere in the universe is likely to be microbial
- B) microbes are known to exist on other planets
- C) all extraterrestrials known are microbial
- D) only microbes can reproduce under the extreme conditions in outer space

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.02 Identify multiple professions using microbiology.

ASM Topic : Module 01 Evolution

ASM Topic : Module 05 Systems

ASM Objective : 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

Bloom's : 3. Apply

Section : 01.01

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**15)** Which of the following does not indicate microbe involvement in energy and nutrient flow?

- A) Thermal hot springs warmed by heat from earth's interior
- B) Formation of greenhouse gases, CO<sub>2</sub> and methane
- C) Digestion of complex carbohydrates in animal diets
- D) Decomposition of dead matter and wastes

## Question Details

Learning Outcome : 01.03 Describe the role and impact of microbes on the earth.

ASM Topic : Module 05 Systems

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

ASM Objective : 06.01 Microbes are essential for life as we know it and the processes that support li

Bloom's : 2. Understand

Section : 01.02

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**16)** The microorganisms that recycle nutrients by breaking down dead matter and wastes are called \_\_\_\_\_.

- A) decomposers
- B) prokaryotes
- C) pathogens
- D) eukaryotes
- E) fermenters

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.03 Describe the role and impact of microbes on the earth.

ASM Topic : Module 03 Metabolic Pathways

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 03.01 Bacteria and Archaea exhibit extensive, and often unique, metabolic diversity (

ASM Objective : 06.01 Microbes are essential for life as we know it and the processes that support li

Bloom's : 1. Remember

Section : 01.02

Topic : Microbial Roles

Accessibility : Keyboard Navigation

17) The majority of oxygen in earth's atmosphere is a product of photosynthesis by \_\_\_\_\_.

- A) microorganisms
- B) rain forests
- C) agricultural lands
- D) green plants

## Question Details

Learning Outcome : 01.03 Describe the role and impact of microbes on the earth.

ASM Topic : Module 05 Systems

ASM Objective : 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

ASM Objective : 06.01 Microbes are essential for life as we know it and the processes that support li

Bloom's : 1. Remember

Section : 01.02

Topic : Microbial Roles

Accessibility : Keyboard Navigation

18) The three cell types discussed, eukaryotes, archaea, and bacteria, all derived from \_\_\_\_\_.

- A) a common ancestral cell
- B) photosynthetic bacteria
- C) archaea
- D) cells with a true nucleus

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.04 Explain the theory of evolution and why it is called a theory.

ASM Topic : Module 01 Evolution

ASM Objective : 01.01 Cells, organelles (e.g., mitochondria and chloroplasts) and all major metabolic

Bloom's : 2. Understand

Section : 01.02

Topic : Cellular Organization

Accessibility : Keyboard Navigation

**19)** The first cells appeared about \_\_\_\_\_ billion years ago.

- A) 5
- B) 4
- C) 3.5
- D) 2
- E) 1

## Question Details

Learning Outcome : 01.04 Explain the theory of evolution and why it is called a theory.

ASM Topic : Module 01 Evolution

ASM Objective : 01.01 Cells, organelles (e.g., mitochondria and chloroplasts) and all major metabolic

Bloom's : 1. Remember

Section : 01.02

Topic : Cellular Organization

Accessibility : Keyboard Navigation

**20)** Which area of biology states that living things undergo gradual structural and functional changes over long periods of time?

- A) Morphology
- B) Phylogeny
- C) Evolution
- D) Genetics
- E) Transformation

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.04 Explain the theory of evolution and why it is called a theory.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.02

Topic : History of Microbiology

Accessibility : Keyboard Navigation

- 21) When humans manipulate the genes of microorganisms, the process is called \_\_\_\_.
- A) bioremediation
  - B) genetic engineering
  - C) epidemiology
  - D) immunology
  - E) taxonomy

## Question Details

Learning Outcome : 01.05 Explain one old way and one new way that humans manipulate organisms for the

ASM Topic : Module 04 Information Flow

ASM Topic : Module 05 Systems

ASM Objective : 04.05 Cell genomes can be manipulated to alter cell function.

ASM Objective : 06.03 Humans utilize and harness microorganisms and their products.

Bloom's : 1. Remember

Section : 01.03

Topic : Microbial Roles

Accessibility : Keyboard Navigation

- 22) Which activity is an example of biotechnology?
- A) Bacteria in the soil secreting an antibiotic to kill competitors
  - B) A microbiologist using the microscope to view bacteria
  - C) Egyptians using moldy bread on wounds
  - D) *Escherichia coli* producing human insulin
  - E) Public health officials monitoring diseases in a community

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.05 Explain one old way and one new way that humans manipulate organisms for the

ASM Topic : Module 04 Information Flow

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 06.03 Humans utilize and harness microorganisms and their products.

Bloom's : 2. Understand

Section : 01.03

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**23)** Which of the following is a traditional human use of microorganisms?

- A) Baking bread
- B) Treating water and sewage
- C) Mass-producing antibiotics
- D) Cleaning up oil spills

## Question Details

Learning Outcome : 01.05 Explain one old way and one new way that humans manipulate organisms for the

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 06.03 Humans utilize and harness microorganisms and their products.

Bloom's : 2. Understand

Section : 01.03

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**24)** Using microbes to detoxify a site contaminated with heavy metals is an example of \_\_\_\_\_.

- A) biotechnology
- B) bioremediation
- C) decomposition
- D) immunology
- E) epidemiology

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.05 Explain one old way and one new way that humans manipulate organisms for the

ASM Topic : Module 06 Impact of Microorganisms

ASM Objective : 06.03 Humans utilize and harness microorganisms and their products.

Bloom's : 1. Remember

Section : 01.03

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**25)** Disease-causing microorganisms are called \_\_\_\_\_.

- A) decomposers
- B) bacteria
- C) pathogens
- D) eukaryotes
- E) fermenters

## Question Details

Learning Outcome : 01.06 Summarize the relative burden of human disease caused by microbes, emphasizing

ASM Topic : Module 05 Systems

ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h

Bloom's : 1. Remember

Section : 01.04

Topic : Microbial Roles

Accessibility : Keyboard Navigation

**26)** The number one worldwide infectious diseases are \_\_\_\_\_.

- A) AIDS-related diseases
- B) diarrheal diseases
- C) malaria and other protozoan diseases
- D) measles and other rash diseases
- E) respiratory diseases

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.06 Summarize the relative burden of human disease caused by microbes, emphasize

ASM Topic : Module 05 Systems

ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h

Bloom's : 3. Apply

Section : 01.04

Topic : Microbial Roles

Accessibility : Keyboard Navigation

27) The incidence of deaths from communicable disease is \_\_\_\_\_ in the United States compared to the entire world.

- A) less
- B) greater
- C) about the same

## Question Details

Learning Outcome : 01.06 Summarize the relative burden of human disease caused by microbes, emphasize

ASM Topic : Module 05 Systems

ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h

Bloom's : 2. Understand

Section : 01.04

Topic : Microbial Roles

Accessibility : Keyboard Navigation

28) In which way are bacteria and eukaryotes the same?

- A) Contain membrane-bound organelles
- B) Possess a cell membrane
- C) Contain a nucleus to hold DNA
- D) Always have a cell wall for rigidity

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.07 Differentiate among bacteria, archaea, and eukaryotic microorganisms.

ASM Topic : Module 02 Structure and Function

ASM Objective : 02.02 Bacteria have unique cell structures that can be targets for antibiotics, immun

Bloom's : 2. Understand

Section : 01.05

Topic : Cellular Organization

Accessibility : Keyboard Navigation

**29)** In which way are archaea and eukaryotes the same?

- A) Contain membrane-bound organelles
- B) Have similar ssu rRNA sequences
- C) Contain mitochondria for energy production
- D) Possess RNA instead of DNA

## Question Details

Learning Outcome : 01.07 Differentiate among bacteria, archaea, and eukaryotic microorganisms.

ASM Topic : Module 02 Structure and Function

ASM Objective : 02.02 Bacteria have unique cell structures that can be targets for antibiotics, immun

Bloom's : 2. Understand

Section : 01.05

Topic : Cellular Organization

Accessibility : Keyboard Navigation

**30)** Which of the following is a unique characteristic of viruses that distinguishes them from the other major groups of microorganisms?

- A) Cause human disease
- B) Lack a nucleus
- C) Cannot be seen without a microscope
- D) Contain genetic material
- E) Lack cell structure

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.08 Identify two types of acellular microorganisms.

ASM Topic : Module 02 Structure and Function

ASM Objective : 04.04 The synthesis of viral genetic material and proteins is dependent on host cells

Bloom's : 2. Understand

Section : 01.05

Topic : Cellular Organization

Accessibility : Keyboard Navigation

**31)** Which group of microorganisms is composed only of hereditary material wrapped in a protein covering?

- A) Viruses
- B) Bacteria
- C) Parasites
- D) Fungi
- E) Yeasts

## Question Details

Learning Outcome : 01.08 Identify two types of acellular microorganisms.

ASM Topic : Module 02 Structure and Function

ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h

Bloom's : 1. Remember

Section : 01.05

Topic : Cellular Organization

Accessibility : Keyboard Navigation

**32)** Eukaryotic cells are larger than bacterial or archaeal cells; all cells are larger than macromolecules. Where do viruses fit on this scale?

- A) Viruses are larger than eukaryotic cells.
- B) Viruses are smaller than eukaryotic cells, but larger than bacterial or archaeal cells.
- C) Viruses are smaller than bacterial or archaeal cells, but larger than macromolecules.
- D) Viruses are smaller than macromolecules.

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.09 Compare and contrast the relative sizes of the different microbes.

Learning Outcome : 01.08 Identify two types of acellular microorganisms.

ASM Topic : Module 02 Structure and Function

Bloom's : 3. Apply

Section : 01.05

Topic : Cellular Organization

ASM Objective : 02.01 The structure and function of microorganisms have been revealed by the use of m

Accessibility : Keyboard Navigation

**33)** In general, eukaryotic cells are about \_\_\_\_\_ times larger than bacterial or archaeal cells.

- A) 2
- B) 10
- C) 50
- D) 1000

## Question Details

Learning Outcome : 01.09 Compare and contrast the relative sizes of the different microbes.

ASM Topic : Module 02 Structure and Function

Bloom's : 1. Remember

Section : 01.05

Topic : Cellular Organization

ASM Objective : 02.01 The structure and function of microorganisms have been revealed by the use of m

Accessibility : Keyboard Navigation

**34)** Archaeal cells are about \_\_\_\_\_ bacterial cells.

- A) the same size as
- B) ten times larger than
- C) ten times smaller than

# Microbiology Systems Approach 6th Edition by Kelly CH01

## Question Details

Learning Outcome : 01.09 Compare and contrast the relative sizes of the different microbes.

ASM Topic : Module 02 Structure and Function

Bloom's : 2. Understand

Section : 01.05

Topic : Cellular Organization

ASM Objective : 02.01 The structure and function of microorganisms have been revealed by the use of m

Accessibility : Keyboard Navigation

**35)** Which of the following historical microbiologists is incorrectly paired with his contribution to the science?

- A) Francesco Redi: tested spontaneous generation with meat exposed to the air or covered with cloth
- B) Antonie van Leeuwenhoek: made and used quality magnifying lenses to observe and record microorganisms
- C) Louis Pasteur: demonstrated that anthrax was caused by a bacterium
- D) Joseph Lister: promoted disinfecting hands and air prior to surgery

## Question Details

Learning Outcome : 01.10 Make a time line of the development of microbiology from the 1600s to today.

ASM Topic : Module 02 Structure and Function

Bloom's : 3. Apply

Section : 01.06

Topic : History of Microbiology

ASM Objective : 02.01 The structure and function of microorganisms have been revealed by the use of m

Accessibility : Keyboard Navigation

**36)** In the experiments constructed by Pasteur to disprove spontaneous generation, swan-necked flasks were used. Why was this shape of flask used in this experiment?

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- A) The glass necks needed to be open to the air, yet constructed so that bacteria would settle in the lowest part of the neck.
- B) These flask shapes were the easiest and cheapest to produce.
- C) The shape of the glass neck allowed the bacteria into the flask and then into the media, but air could not enter.
- D) Because the glass necks were stretched out, the heat used to sterilize the medium inside of the flask could not kill the bacteria in the neck.

## Question Details

Learning Outcome : 01.10 Make a time line of the development of microbiology from the 1600s to today.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01a Ability to apply the process of science: Demonstrate an ability to formulate h

Bloom's : 2. Understand

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

37) Koch's postulates are criteria used to establish that \_\_\_\_\_.

- A) microbes are found on dust particles
- B) a specific microbe is the cause of a specific disease
- C) life forms can only arise from preexisting life forms
- D) a specific microbe should be classified in a specific kingdom
- E) microbes can be used to clean up toxic spills

## Question Details

Learning Outcome : 01.10 Make a time line of the development of microbiology from the 1600s to today.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01b Ability to apply the process of science: Analyze and interpret results from a

Bloom's : 1. Remember

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

38) Which of the following is NOT a recent discovery that has had a huge impact on the understanding of microbiology?

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Restriction enzymes
- B) PCR technique
- C) Human microbiome project
- D) Small RNAs
- E) All are significant discoveries.

## Question Details

Learning Outcome : 01.11 List some recent microbiological discoveries of great impact.

ASM Topic : Module 05 Systems

ASM Objective : 06.03 Humans utilize and harness microorganisms and their products.

ASM Objective : 06.04 Because the true diversity of microbial life is largely unknown, its effects an

Bloom's : 1. Remember

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

**39)** The sum total of all the microbes in a certain environment is termed the \_\_\_\_\_.

- A) microbiome
- B) biofilm
- C) microbial niche
- D) domain
- E) phylogeny

## Question Details

Learning Outcome : 01.11 List some recent microbiological discoveries of great impact.

ASM Topic : Module 05 Systems

ASM Objective : 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

Bloom's : 1. Remember

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

**40)** Which of the following is not a process in the scientific method?

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Belief in a preconceived idea
- B) Formulation of a hypothesis
- C) Systematic observation
- D) Laboratory experimentation
- E) Development of a theory

## Question Details

Learning Outcome : 01.12 Explain what is important about the scientific method.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01a Ability to apply the process of science: Demonstrate an ability to formulate h

Bloom's : 2. Understand

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

41) Experimentation \_\_\_\_\_.

- A) is designed to refute an hypothesis
- B) is designed to support an hypothesis
- C) provides a means to gather subjective data
- D) provides a means to gather objective data
- E) is the first step in the scientific method

## Question Details

Learning Outcome : 01.12 Explain what is important about the scientific method.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01a Ability to apply the process of science: Demonstrate an ability to formulate h

Bloom's : 2. Understand

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

42) The scientific method includes all of the following except \_\_\_\_\_.

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) hypothesis
- B) experimentation
- C) observation
- D) publication

## Question Details

Learning Outcome : 01.12 Explain what is important about the scientific method.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01a Ability to apply the process of science: Demonstrate an ability to formulate h

Bloom's : 2. Understand

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

**43)** Caring for patients infected with a new virus requires safety precautions for medical personnel. Choosing appropriate procedures is an example of a/an \_\_\_\_\_ process.

- A) deductive
- B) inductive
- C) hypothetical
- D) pathogenic

## Question Details

Learning Outcome : 01.12 Explain what is important about the scientific method.

ASM Topic : Module 07 Scientific Thinking

ASM Objective : 07.01b Ability to apply the process of science: Analyze and interpret results from a

Bloom's : 3. Apply

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

**44)** Sterile is best described as \_\_\_\_\_.

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) pathogen-free
- B) absence of spores
- C) absence of any life forms and viral particles
- D) pasteurized
- E) homogenized

## Question Details

Learning Outcome : 01.10 Make a time line of the development of microbiology from the 1600s to today.

ASM Topic : Module 05 Systems

ASM Objective : 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

Bloom's : 1. Remember

Section : 01.06

Topic : History of Microbiology

Accessibility : Keyboard Navigation

45) Taxonomy does not involve \_\_\_\_\_.

- A) nomenclature
- B) classification
- C) identification
- D) a common name

## Question Details

Learning Outcome : 01.13 Differentiate among the terms nomenclature, taxonomy, and classification.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

46) Which scientific field is involved in the identification, classification, and naming of organisms?

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Nomenclature
- B) Taxonomy
- C) Phylogeny
- D) Pathology
- E) Epidemiology

## Question Details

Learning Outcome : 01.13 Differentiate among the terms nomenclature, taxonomy, and classification.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

47) The orderly arrangement of organisms into a hierarchy of taxa is called \_\_\_\_\_.

- A) classification
- B) identification
- C) nomenclature
- D) experimentation
- E) biotechnology

## Question Details

Learning Outcome : 01.13 Differentiate among the terms nomenclature, taxonomy, and classification.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

48) Which of the following is a taxon that contains all the other taxa listed?

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Species
- B) Phylum
- C) Kingdom
- D) Genus
- E) Family

## Question Details

Learning Outcome : 01.14 Create a mnemonic device for remembering the taxonomic categories.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**49)** The smallest and most significant taxon is a \_\_\_\_\_.

- A) genus
- B) species
- C) kingdom
- D) family
- E) phylum

## Question Details

Learning Outcome : 01.14 Create a mnemonic device for remembering the taxonomic categories.

ASM Topic : Module 01 Evolution

ASM Objective : 01.04 The traditional concept of species is not readily applicable to microbes due to

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**50)** Select the correct descending taxonomic hierarchy (left to right).

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Family, order, class
- B) Family, genus, species
- C) Genus, species, family
- D) Class, phylum, order
- E) Kingdom, domain, phylum

## Question Details

Learning Outcome : 01.14 Create a mnemonic device for remembering the taxonomic categories.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 2. Understand

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**51)** A mnemonic for remembering the taxonomic levels from Domain to Species is "Dear King Phillip Came Over for Good Soup." The word "came" here is a reminder of the taxonomic level of \_\_\_\_\_.

- A) class
- B) category
- C) chain
- D) colony
- E) culture

## Question Details

Learning Outcome : 01.14 Create a mnemonic device for remembering the taxonomic categories.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 3. Apply

Section : 01.06

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**52)** Which of the following is a scientific name?

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Gram-positive streptococcus
- B) *Streptococcus pyogenes*
- C) Anthrax
- D) Streptobacilli

## Question Details

Learning Outcome : 01.15 Correctly write the binomial name for a microorganism.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 2. Understand

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

53) When assigning a scientific name to an organism, \_\_\_\_\_.

- A) the species name is capitalized
- B) the species name is placed first
- C) the species name can be abbreviated
- D) both genus and species names are capitalized
- E) both genus and species names are italicized or underlined

## Question Details

Learning Outcome : 01.15 Correctly write the binomial name for a microorganism.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

54) Which scientific name is written correctly?

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) Staphylococcus aureus
- B) staphylococcus aureus
- C) Staphylococcus Aureus
- D) *Staphylococcusaureus*
- E) S. aureus

## Question Details

Learning Outcome : 01.15 Correctly write the binomial name for a microorganism.

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 2. Understand

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**55)** A diagram of the three domains (Bacteria, Archaea, Eukarya) proceeding from the Last CommonAncestor would show Archaea \_\_\_\_\_.

- A) as the original cells from which the others derived
- B) branching off the Domain Eukarya
- C) branching off the Domain Bacteria

## Question Details

Learning Outcome : 01.16 Draw a diagram of the three major domains.

ASM Topic : Module 01 Evolution

ASM Objective : 01.01 Cells, organelles (e.g., mitochondria and chloroplasts) and all major metabolic

Bloom's : 3. Apply

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**56)** Analysis of the small subunit rRNAs from all organisms in the three current domains suggests that \_\_\_\_\_.

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) the eukaryotes arose from prokaryotes
- B) the Archaea are more closely related to bacteria than eukaryotes
- C) all modern and extinct organisms on earth arose from a common ancestor
- D) bacteria, archaea, and eukaryotes are not related

## Question Details

Learning Outcome : 01.16 Draw a diagram of the three major domains.

Learning Outcome : 01.17 Explain the difference between traditional and molecular approaches to taxon

ASM Topic : Module 01 Evolution

ASM Objective : 01.01 Cells, organelles (e.g., mitochondria and chloroplasts) and all major metabolic

Bloom's : 2. Understand

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

57) The study of evolutionary relationships among organisms is called \_\_\_\_\_.

- A) biotechnology
- B) genetics
- C) recombinant DNA
- D) phylogeny
- E) taxonomy

## Question Details

Learning Outcome : 01.04 Explain the theory of evolution and why it is called a theory.

Learning Outcome : 01.17 Explain the difference between traditional and molecular approaches to taxon

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 1. Remember

Section : 01.02

Section : 01.07

Topic : History of Microbiology

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

58) A scientist studying the sequence of nucleotides in the rRNA of a bacterial species is working on \_\_\_\_\_.

# Microbiology Systems Approach 6th Edition by Kelly CH01

- A) determining evolutionary relatedness
- B) bioremediation
- C) recombinant DNA
- D) nomenclature
- E) determining if that species is the cause of a new disease

## Question Details

Learning Outcome : 01.17 Explain the difference between traditional and molecular approaches to taxon

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 3. Apply

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

**59)** Trees of life that illustrate the phylogenetic relationships of all organisms were traditionally based on \_\_\_\_\_.; newer methods for determining phylogeny rely on \_\_\_\_\_.

- A) morphology; nucleic acid sequences
- B) nucleic acid sequences; morphology
- C) morphology; virology
- D) morphology; nutritional requirements
- E) nucleic acid sequences; microbiomes

## Question Details

Learning Outcome : 01.17 Explain the difference between traditional and molecular approaches to taxon

ASM Topic : Module 01 Evolution

ASM Objective : 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tree

Bloom's : 2. Understand

Section : 01.07

Topic : Taxonomy of Microorganisms

Accessibility : Keyboard Navigation

# **Microbiology Systems Approach 6th Edition by Kelly CH01**

## **Answer Key**

Test name: CH01

- 1) TRUE
- 2) TRUE
- 3) TRUE
- 4) TRUE
- 5) TRUE
- 6) FALSE
- 7) D
- 8) A
- 9) D
- 10) A
- 11) C
- 12) A
- 13) A
- 14) A
- 15) A
- 16) A
- 17) A
- 18) A
- 19) B
- 20) C
- 21) B
- 22) D
- 23) A
- 24) B
- 25) C
- 26) E

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- 27) A
- 28) B
- 29) B
- 30) E
- 31) A
- 32) C
- 33) B
- 34) A
- 35) C
- 36) A
- 37) B
- 38) E

Refer to the text and read about the recent discoveries that have had a huge impact on the understanding of microbiology.

- 39) A
- 40) A
- 41) D
- 42) D
- 43) A
- 44) C
- 45) D
- 46) B
- 47) A
- 48) C
- 49) B
- 50) B
- 51) A
- 52) B
- 53) E
- 54) D

## **Microbiology Systems Approach 6th Edition by Kelly CH01**

55) B

56) C

Refer to "Systems of Presenting a Universal Tree of Life" for a discussion of the ssu rRNAs and their role in taxonomy.

57) D

58) A

59) A