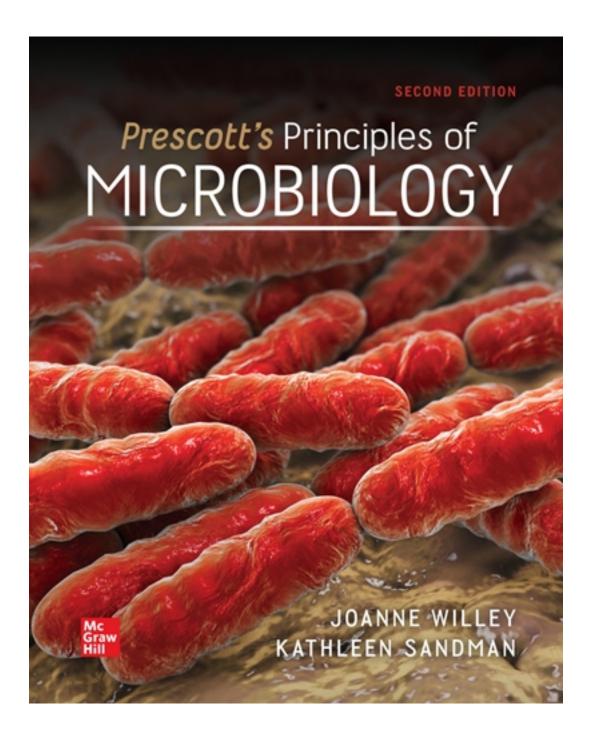
## Test Bank for Prescotts Principles of Microbiology 2nd Edition by Willey

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# Test Bank

#### 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) Extant microorganisms are organisms from the fossil record that are no longer present on Earth today.
  - o true
  - false

#### **Question Details**

Bloom's: 2. Understand

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

ASM Objective: 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tre Learning Outcome: 01.02a Explain the RNA world hypothesis and the evidence that supports it

Accessibility: Keyboard Navigation

Gradable: automatic

- 2) Microbiologists study a variety of organisms, but all are considered either *Bacteria* or *Archaea*.
  - true
  - false

#### **Question Details**

Bloom's: 2. Understand

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 05 Microbial Systems

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

Learning Outcome: 01.01a Define the term microbiology

- 3) All eukaryotes have a membrane-delimited nucleus.
  - true
  - false

Version 1

#### **Question Details**

Bloom's: 2. Understand

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 02 Cell Structure and Function

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a ASM Objective: 02.04 While microscopic eukaryotes (for example, fungi, protozoa and algae) carry out

- 4) Viruses are not generally studied by microbiologists because they are not classified as living organisms.
  - o true
  - (iii) false

#### **Question Details**

Bloom's: 2. Understand

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic : Module 05 Microbial Systems

Learning Outcome: 01.01a Define the term microbiology

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

- 5) Viruses constitute the fourth domain of life in current biological classification schemes.
  - true
  - (in false)

#### **Question Details**

Bloom's: 2. Understand

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01

<b>6</b> )	The earliest microbial	fossils thathave	been found are	dated from a	approximately 4
million	years ago.				

• true

false

#### **Question Details**

ASM Topic: Module 01 Evolution

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01

Bloom's: 1. Remember

Topic: Bacteria

- 7) Fanny Hesse first suggested that agar be used to solidify microbiological media.
  - o true
  - false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

ASM Topic: Module 06 Impact of Microorganisms

Learning Outcome: 01.03c Predict the difficulties that might arise when using Koch's postulates to d

**8**) M. J. Berkeley demonstrated that the great potato blight of Ireland was caused by a water mold (then thought to be a fungus).

o true

false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- 9) Invisible living creatures were thought to exist and cause disease long before they were ever observed.
  - o true
  - (c) false

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- **10)** Koch's postulates were instrumental in establishing that the intracellular parasite *Mycobacterium leprae* is the causative organism of leprosy.
  - true
  - (in false)

#### **Ouestion Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03c Predict the difficulties that might arise when using Koch's postulates to d

<b>11</b> )	Edward Jei	nner's work in p	reventi	ng rabies l	ed to th	e use o	f the term	vaccinatio	n to
describ	e a type of	procedure used	in the	prevention	of disea	ase.			

o true

false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- **12)** Although developed over 100 years ago, Koch's postulates continue to be used successfully in all known human infectious diseases.
  - (o) true
  - (in false)

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03c Predict the difficulties that might arise when using Koch's postulates to d

13) Viruses and bacteria were first cultured in the laboratoryat about the same time.

o true

false

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- 14) Charles Chamberland developed porcelain filters that allowed other scientists to demonstrate that viruses are smaller than bacteria.
  - o true
  - false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

ASM Topic: Module 07 Scientific Thinking

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

- 15) The first disease to be identified as being caused by a virus was tobacco mosaic disease.
  - true
  - (c) false

#### **Ouestion Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03b Outline a set of experiments that might be used to decide if a particular m

<b>16</b> )	John	Tyndall	demonstr	rated tl	hat micr	oorgani	sms į	present	in t	he air	are	carried	on	dust
particle	es.													

• true

false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

- 17) Agostino Bassi demonstrated that a type of silkworm disease was caused by a fungus and proposed that many diseases are caused by microorganisms.
  - true
  - (c) false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- 18) The usefulness of agar in solidifying microbiological growth media is limited because it does not remain solid at temperatures above 28°C.
  - o true
  - false

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- 19) Robert Koch developed a vaccine that could be used to prevent anthrax.
  - o true
  - false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- **20**) The endosymbiotic hypothesis is generally accepted as the origin of eukaryotic organelles.
  - true
  - false

#### **Ouestion Details**

Bloom's: 2. Understand

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Objective: 01.01 Cells, organelles (e.g. mitochondria and chloroplasts) and all major metabolic Learning Outcome: 01.02c Compare and contrast the evolution of mitochondria and chloroplasts

21)	The relationship between	en specific bacter	ia and specific	diseases	was first	demonstrated
by Koc	ch.					

• true

false

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- **22)** Some microorganisms are useful in bioremediation processes that reduce the effects of pollution.
  - o true
  - false

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable : automatic Topic : Bacteria

ASM Topic: Module 06 Impact of Microorganisms

Section: 01.04

ASM Objective: 06.01 Microbes are essential for life as we know it and the processes that support li Learning Outcome: 01.04a Construct a concept map, table, or drawing that illustrates the diverse nat

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

23) Protists contain all of the following forms of life EXCEPT \_\_\_\_\_.

- A) protozoa
- B) fungi
- C) slime molds
- D) algae

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ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01

Bloom's: 1. Remember

- **24)** Cells with a relatively complex morphology that have a true membrane-delimited nucleus are called \_\_\_\_\_.
  - A) prokaryotes
  - B) eukaryotes
  - C) urkaryotes
  - D) nokaryotes

#### **Question Details**

Bloom's: 2. Understand

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 02 Cell Structure and Function

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a ASM Objective: 02.04 While microscopic eukaryotes (for example, fungi, protozoa and algae) carry out

- **25**) Cells with a relatively simple cell morphology that do not have a true membrane-delimited nucleus are called \_\_\_\_\_.
  - A) prokaryotes
  - B) eukaryotes
  - C) urkaryotes
  - D) nokaryotes

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 02 Cell Structure and Function

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a

Topic: Bacterial Cellular Morphology

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

- **26)** The ribosomal RNA studies that led to the division of prokaryotic organisms into the Bacteria and the Archaea were begun by \_\_\_\_\_\_.
  - A) Pasteur
  - B) Woese
  - C) Needham
  - D) Watson

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01

Bloom's: 1. Remember

- 27) Proteins function in modern cells as \_\_\_\_\_\_.
  - A) catalysts
  - B) hereditary information
  - C) structural elements
  - D) both catalysts and structural elements

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable : automatic Section : 01.01

Learning Outcome: 01.01a Define the term microbiology

Topic : Bacterial Cellular Morphology ASM Topic : Module 03 Metabolic Pathways

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

- **28)** RNA serves to convert the information stored in DNA to . .
  - A) carbohydrates
  - B) protein
  - C) lipids
  - D) RNA

#### **Question Details**

Bloom's: 2. Understand

Section: 01.02

Learning Outcome: 01.02a Explain the RNA world hypothesis and the evidence that supports it

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 04 Information Flow and Genetics

Topic: Bacteria

ASM Objective: 04.02 Although the central dogma is universal in all cells, the processes of replicat

- **29**) Which of the following distinguish the field of microbiology from other fields of biology?
  - A) The size of the organism studied.
  - B) The techniques used to study organisms regardless of their size.
- C) Both the size of the organism studied and the techniques employed in the study of organisms.
- D) Neither the size of the organism studied nor the techniques employed in the study of organisms regardless of their size.

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 02 Cell Structure and Function Learning Outcome: 01.01a Define the term microbiology

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

Topic: History of Microbiology

- **30)** Who of the following developed a set of criteria that could be used to establish a causative link between a particular microorganism and a particular disease?
  - A) Fracastoro
  - B) Koch
  - C) Pasteur
  - D) Lister

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic : Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03b Outline a set of experiments that might be used to decide if a particular m

- 31) Who of the following was the first to observe and accurately describe microorganisms?
  - A) Pasteur
  - B) Lister
  - C) van Leeuwenhoek
  - D) Tyndall

Version 1

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 02 Cell Structure and Function

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

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- **32)** Who of the following provided the evidence needed to discredit the concept of spontaneous generation?
  - A) Pasteur
  - B) Koch
  - C) Semmelweiss
  - D) Lister

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic : Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- 33) The concept that living organisms arise from nonliving material is called \_\_\_\_\_.
  - A) biogenesis
  - B) cell theory
  - C) spontaneous generation
  - D) germ theory

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 05.01 Microorganisms are ubiquitous and live in diverse and dynamic ecosystems.

- 34) The concept that human and animal diseases are caused by microorganisms is called the
  - A) cell theory
  - B) germ theory
  - C) causative theory
  - D) disease theory

#### **Question Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic : Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03b Outline a set of experiments that might be used to decide if a particular m

- **35**) Whose work on spontaneous generation first demonstrated the existence of a very heat-resistant form of bacteria that are called endospores?
  - A) Schwann
  - B) Redi
  - C) Tyndall
  - D) Pasteur

Question D	<b>Details</b>
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Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 02 Cell Structure and Function

ASM Objective: 02.03 Bacteria and Archaea have specialized structures (e.g. flagella, endospores, an

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- **36)** Antiseptic surgery was pioneered by \_\_\_\_\_.
  - A) Pasteur
  - B) Lister
  - C) Jenner
  - D) Kitasato

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- 37) Studies by Emil von Behring and Shibasaburo Kitasato demonstrated that inactivated toxins can induce the synthesis of antitoxins in the blood of rabbits. These antitoxins (antibodies) are the basis of \_\_\_\_\_\_.
  - A) humoral immunity
  - B) cell-mediated immunity
  - C) antibiotic immunity
  - D) phagocyte-mediated immunity

O	uestion	Details
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Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic : Module 05 Microbial Systems

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

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- **38)** The first surgical antiseptic to be used was \_\_\_\_\_.
  - A) iodine
  - B) ethanol
  - C) phenol
  - D) None of the choices are correct.

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- 39) Old cultures of bacteria that have lost their ability to cause disease are said to be
  - A) impotent
  - B) virulent
  - C) pathogenic
  - D) attenuated

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

- **40**) Who is credited with developing and documenting the first vaccination procedure against smallpox?
  - A) Koch
  - B) Pasteur
  - C) Jenner
  - D) Lister

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- **41**) Who is credited with developing a vaccine against chicken cholera?
  - A) Koch
  - B) Pasteur
  - C) Jenner
  - D) Lister

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- **42)** Who of the following first discovered that some blood leukocytes could engulf disease-causing bacteria?
  - A) von Behring
  - B) Meister
  - C) Metchnikoff
  - D) Ivanowski

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- 43) The use of enrichment cultures and selective media was pioneered by \_\_\_\_\_\_.
  - A) Beijerinck
  - B) Jenner
  - C) Pasteur
  - D) von Behring

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Section: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- **44)** Which of the following provides the *best* explanation for why viruses are *not* included in the three domain system?
  - A) Viruses are too small.
  - B) Viruses have either DNA or RNA, not both.
  - C) Viruses are not a cellular life form.
  - D) Viruses show no evidence of evolution.

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01 Bloom's: 5. Evaluate

- **45)** A new microbe has been discovered in the rumen of sheep. Microscopy shows no evidence of a nuclear membrane and biochemical studies of the cell wall demonstrate the lack of peptidoglycan. Metabolic studies show that this microbe generates methane. This microbe would most likely be classified in \_\_\_\_\_.
  - A) domain Bacteria
  - B) domain Archaea
  - C) domain Eukarya, Kingdom Fungi
  - D) domain Eukarya, Protists

#### **Question Details**

Topic: Taxonomy of Microorganisms Accessibility: Keyboard Navigation

Gradable : automatic Section : 01.01

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a

ASM Topic: Module 03 Metabolic Pathways

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

Bloom's: 4. Analyze

- **46)** What is the most compelling reason why "protists" are NOT considered to be a taxonomic group?
  - A) They are *not* cellular life forms.
  - B) They are too small to be included among the eukaryotes.
  - C) The group includes both prokaryotic and eukaryotic cell types.
- D) The organisms often included in this group are very diverse and don't form a cohesive taxon.

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01 Bloom's: 5. Evaluate

- **47**) Scientists study microorganisms on Earth today to search for life forms elsewhere, as well as to explore the origins of life on Earth. These microorganisms that are studied are referred to as \_\_\_\_\_\_.
  - A) existing
  - B) extant
  - C) extinct
  - D) extirpated

#### **Question Details**

Topic: Taxonomy of Microorganisms

**Section**: 01.02

Learning Outcome: 01.02a Explain the RNA world hypothesis and the evidence that supports it

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 06 Impact of Microorganisms

Bloom's: 3. Apply

ASM Objective: 06.02 Microorganisms provide essential models that give us fundamental knowledge abou

- **48)** The most important aspect of agar that makes it a useful ingredient for solidifying media for bacterial culture is
  - A) because it provides an excellent nitrogen source for bacteria
  - B) because bacteria are unable to break it down so it stays solidified
  - C) because it melts at 100°C and solidifies at temperatures below 40°C
  - D) because it provides an excellent carbon and energy source for bacteria

#### **Ouestion Details**

Bloom's: 2. Understand

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic : Module 03 Metabolic Pathways

Topic: History of Microbiology

**Section**: 01.03

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke, ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica

- **49**) Which molecule is believed to have preceded the other two during the evolution of life?
  - A) Proteins
  - B) DNA
  - C) RNA

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

ASM Objective: 01.05 The evolutionary relatedness of organisms is best reflected in phylogenetic tre Learning Outcome: 01.02a Explain the RNA world hypothesis and the evidence that supports it

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 3. Apply

- **50)** What is the most compelling reason why DNA, rather than RNA, evolved to be the storage repository for genetic information in cellular life forms?
  - A) DNA has deoxyribose rather than ribose.
  - B) DNA molecules are more chemically stable than RNA molecules.
  - C) DNA is double-stranded rather than single-stranded.

#### **Question Details**

Section: 01.02

Learning Outcome: 01.02a Explain the RNA world hypothesis and the evidence that supports it

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic : Module 04 Information Flow and Genetics

ASM Objective: 04.02 Although the central dogma is universal in all cells, the processes of replicat

Topic: History of Microbiology

Bloom's: 5. Evaluate

- **51)** Each of the following provides evidence in support of the primary role of RNA in the evolution of life EXCEPT \_\_\_\_\_\_.
  - A) some RNA molecules are catalytic
  - B) RNA catalyzes peptide bond formation during protein synthesis
  - C) ATP (energy currency of the cell) is a ribonucleotide
  - D) RNA is less chemically stable than DNA
  - E) RNA can regulate gene expression

#### **Question Details**

Topic: Taxonomy of Microorganisms

**Section**: 01.02

Learning Outcome: 01.02a Explain the RNA world hypothesis and the evidence that supports it

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 04 Information Flow and Genetics

ASM Objective: 04.02 Although the central dogma is universal in all cells, the processes of replicat

Bloom's: 4. Analyze

- **52)** While each of these processes are believed to have evolved prior to aerobic respiration, which one is the most critical process, without which aerobic respiration could never have developed?
  - A) Oxygenic photosynthesis
  - B) Anoxygenic photosynthesis
  - C) Alcohol fermentation
  - D) Lactic acid fermentation

#### **Question Details**

Section: 01.02

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 03 Metabolic Pathways

Topic: History of Microbiology

Learning Outcome: 01.02c Compare and contrast the evolution of mitochondria and chloroplasts

ASM Objective: 03.02 The interactions of microorganisms among themselves and with their environment

Bloom's: 4. Analyze

- 53) Which term is most inclusive? In other words, which term includes all the others?
  - A) Microbial species
  - B) Microbial strain
  - C) Biovars
  - D) Serovars

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

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

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 4. Analyze

Learning Outcome: 01.02b Design a set of experiments that could be used to place a newly discovered

- **54)** Which of the processes named here is the least likely to contribute to the evolution of genetic diversity of bacteria and archaea?
  - A) Mutation
  - B) Sexual reproduction
  - C) Binary fission
  - D) Horizontal gene transfer

#### **Ouestion Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

**Section**: 01.02

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.02c Compare and contrast the evolution of mitochondria and chloroplasts

Bloom's: 4. Analyze

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

**55)** A student is observing microorganisms in a sample of pond water. One organism of interest has an obvious nucleus, small oval structures containing a green pigment, and does *not* appear to be motile. In which of the following groups would this microbe most likely be classified?

- A) Eukaryotes (Fungi)
- B) Eukaryotes (Algae)
- C) Bacteria
- D) Archaea
- E) Eukaryotes (Protozoa)

#### **Question Details**

Topic: Taxonomy of Microorganisms Accessibility: Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic : Module 02 Cell Structure and Function

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a ASM Objective: 02.04 While microscopic eukaryotes (for example, fungi, protozoa and algae) carry out

Bloom's: 4. Analyze

- **56)** A student is observing microorganisms in a sample of pond water. One organism of interest has an obvious nucleus and has been moving rapidly during observation and appears to have rows of cilia along its surface. In which of the following groups would this microbe most likely be classified?
  - A) Eukaryotes (Fungi)
  - B) Eukaryotes (Algae)
  - C) Bacteria
  - D) Eukaryotes (Protozoa)

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 02 Cell Structure and Function

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a ASM Objective: 02.04 While microscopic eukaryotes (for example, fungi, protozoa and algae) carry out

Bloom's: 4. Analyze

- 57) Morphovars, serovars, biovars, and pathovars are examples of terms that refer to microbial \_\_\_\_\_.
  - A) species
  - B) strains
  - C) types
  - D) Archaea

#### **Question Details**

Bloom's: 2. Understand

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.02b Design a set of experiments that could be used to place a newly discovered ASM Objective: 01.04 The traditional concept of species is not readily applicable to microbes due to ASM Objective: 01.02 Mutations and horizontal gene transfer, with the immense variety of microenviro

- 58) In a search for new antibiotics, a previously unknown organism has been recovered from the soil. It is nonmotile and is composed of long threadlike structures formed from nucleated cells. It is non-photosynthetic and absorbs its nutrients. This organism will most likely be classified among the \_\_\_\_\_\_.
  - A) bacteria
  - B) Archaea
  - C) eukaryotes (fungi)
  - D) eukaryotes (protozoa)
  - E) eukaryotes (algae)

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 02 Cell Structure and Function

Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a ASM Objective: 02.04 While microscopic eukaryotes (for example, fungi, protozoa and algae) carry out

Bloom's: 3. Apply

- 59) Three of the SSU rRNA sequences of threeorganisms have been compared. For organisms 1 and 2, two of the twelve nucleotides in the sequence are different. For organisms 1 and 3, six of the twelve nucleotides are different. Which organism has greater evolutionary distance from organism 1?
  - A) Organism 2
  - B) Organism 3
  - C) The evolutionary distance is the same.
  - D) Evolutionary distance cannot be predicted from this data.

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

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

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 3. Apply

Learning Outcome: 01.02b Design a set of experiments that could be used to place a newly discovered

- **60)** Which group of microbes contains organisms necessary for production of wine and bread?
  - A) Bacteria
  - B) Archaea
  - C) Fungi
  - D) Algae

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

Bloom's: 1. Remember

ASM Topic: Module 06 Impact of Microorganisms

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

Learning Outcome: 01.01d Provide an example of the importance to humans of each of the major types o

- 41) You discover a new microbe while working on a citizen scientist project. The microbe is taken to a lab that specializes in placing organisms in their correct phylogenic niche. In order to determine its evolutionary relatedness to other microbes, the lab carries out \_\_\_\_\_\_.
  - A) SSU rRNA analysis
  - B) microscopic analysis
  - C) biochemical tests
  - D) DNA fingerprinting

#### **Question Details**

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

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

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 3. Apply

Learning Outcome: 01.02b Design a set of experiments that could be used to place a newly discovered

42) You are a medical microbiologist in Dallas, TX. A small population of individuals spread throughout the city have been experiencing alarming yet similar symptoms affecting the liver that have physicians puzzled as to the etiology, although they all suspect it is microbial in nature. What steps would you take to elucidate the organism?

- A) 1. Sample the livers from affected patients to culture and compare organisms; 2. Grow the suspected organisms in culture; 3. Inoculate the cultured organisms into a laboratory animal and monitor for similar symptoms; 4. Culture and analyze the organism from the lab animal and determine relatedness.
- B) 1. Inoculate all suspected organisms into a laboratory animal and monitor for similar symptoms; 2. Biopsy the original patient's liver to look for organisms; 3. Grow the suspected organisms from the liver in culture; 4. Culture and analyze the organism from the lab animal and determine relatedness.
- C) Sample the livers of all sick individuals and culture the organisms, comparing symptoms and microscopic characteristics.
- D) 1. Biopsy the patient's liver to look for organisms; 2. Culture the organisms obtained from the liver and run biochemical tests to determine similarities to other known liver pathogens; 3. Inoculate liver pathogens into lab animals to compare symptoms.

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable: automatic

ASM Topic: Module 05 Microbial Systems

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

Topic : Bacteria Section : 01.03

Learning Outcome: 01.03b Outline a set of experiments that might be used to decide if a particular m

Bloom's: 5. Evaluate

- **63**) Which microbial group members cause serious diseases such as smallpox, AIDS, and Ebola fever?
  - A) Algae
  - B) Bacteria
  - C) Fungi
  - D) Prions
  - E) Viruses

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 05 Microbial Systems

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

Bloom's: 3. Apply

Learning Outcome: 01.01d Provide an example of the importance to humans of each of the major types o

- **64)** Which microbial group members are photosynthetic, include unicellular and multicellular forms, and are the foundation of aquatic food chains?
  - A) Algae
  - B) Bacteria
  - C) Fungi
  - D) Prions
  - E) Viruses

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 05 Microbial Systems

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

Bloom's: 3. Apply

Learning Outcome: 01.01d Provide an example of the importance to humans of each of the major types o

Which microbial group includes beneficial microorganisms that fix nitrogen and make antibiotics, as well as harmful microorganisms that cause disease such as plague and strep throat?

- A) Algae
- B) Bacteria
- C) Fungi
- D) Prions
- E) Viruses

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 05 Microbial Systems

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

Bloom's: 3. Apply

Learning Outcome: 01.01d Provide an example of the importance to humans of each of the major types o

- **66)** Which microbial group members have caused "mad cow disease" and Creutzfeld-Jacob disease?
  - A) Algae
  - B) Bacteria
  - C) Fungi
  - D) Prions
  - E) Viruses

#### **Question Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 05 Microbial Systems

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

Bloom's: 3. Apply

Learning Outcome: 01.01d Provide an example of the importance to humans of each of the major types o

67) Which microbial group members include decomposers, associate with plant roots and help plants grow, produce antibiotics, help bread rise, and help make wine?

A)	) A1	gae
4 A.	, ,,,,,	Suc

- B) Bacteria
- C) Fungi
- D) Prions
- E) Viruses

#### **Ouestion Details**

Topic : Taxonomy of Microorganisms Accessibility : Keyboard Navigation

Gradable : automatic Section : 01.01

ASM Topic: Module 05 Microbial Systems

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

Bloom's: 3. Apply

Learning Outcome: 01.01d Provide an example of the importance to humans of each of the major types o

### FILL IN THE BLANK. Write the word or phrase that best completes each statement or answers the question.

68) All cellular organisms can be placed into one of three \_\_\_\_\_\_, which include the *Bacteria, Archaea*, and the *Eukarya*.

#### **Question Details**

Bloom's: 2. Understand

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.01b Explain Carl Woeses contributions in establishing the three-domain system f

Section: 01.01

69) Archaea are cellular organismsthat have unique cell membrane \_\_\_\_\_\_.

Question Details  Accessibility: Keyboard Navigation  Gradable: automatic  Section: 01.01  Bloom's: 1. Remember  ASM Topic: Module 02 Cell Structure and Function  Topic: Archaea  ASM Objective: 02.03 Bacteria and Archaea have specialized structures (e.g. flagella, endospores, an Learning Outcome: 01.01c Determine the type of microbe (e.g., bacterium, fungus, etc.) when given a
<b>70</b> ) Elie Metchnikoff discovered, which is a major feature of the host immune response.
Question Details  Accessibility: Keyboard Navigation  Gradable: automatic  Bloom's: 1. Remember  ASM Topic: Module 03 Metabolic Pathways  Topic: History of Microbiology  Section: 01.03  Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,  ASM Objective: 03.04 The growth of microorganisms can be controlled by physical, chemical, mechanica
71) An Italian physician,, challenged the concept of spontaneous generation by demonstrating that maggots do notarise from decaying meat but rather from developing fly eggs.
Question Details  Accessibility: Keyboard Navigation  Gradable: automatic  Bloom's: 1. Remember  ASM Topic: Module 05 Microbial Systems  ASM Objective: 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h  Topic: History of Microbiology  Section: 01.03  Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,
72) discovered that soil bacteria could oxidize iron, sulfur, and ammonia to obtain energy.

Question Details
Accessibility: Keyboard Navigation
Gradable: automatic
Bloom's: 1. Remember
ASM Topic : Module 03 Metabolic Pathways
ASM Objective: 03.01 Bacteria and Archaea exhibit extensive, and often unique, metabolic diversity (
Topic: History of Microbiology
Section: 01.03
Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,
73) was the first to isolate a root nodule bacterium capable of nitrogen fixation.
Question Details
Accessibility: Keyboard Navigation
Gradable: automatic
Bloom's: 1. Remember
ASM Topic : Module 03 Metabolic Pathways
ASM Objective: 03.01 Bacteria and Archaea exhibit extensive, and often unique, metabolic diversity (
Topic: History of Microbiology
Section: 01.03

74) The branch of microbiology that deals with diseases of humans and animals is called \_\_\_\_\_ microbiology.

Learning Outcome: 01.03a Evaluate the importance of the contributions to microbiology made by Hooke,

#### **Question Details**

Accessibility: Keyboard Navigation

Gradable : automatic Bloom's : 1. Remember

ASM Topic: Module 05 Microbial Systems

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

Topic: History of Microbiology

Section: 01.04

Learning Outcome: 01.04b Discuss the belief held by many microbiologists that microbiology is experi

75) The branch of microbiology that deals with the mechanisms by which the human body protects itself from disease-causing organisms is called \_\_\_\_\_\_.

Question Details
Accessibility: Keyboard Navigation
Gradable: automatic
Bloom's: 1. Remember
ASM Topic : Module 05 Microbial Systems
ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h
Topic: History of Microbiology
Section: 01.04
Learning Outcome: 01.04b Discuss the belief held by many microbiologists that microbiology is experi
76) microbiologists monitor community food establishments and
water supplies in order to control the spread of communicable diseases.
Question Details
Accessibility: Keyboard Navigation
Gradable: automatic
Bloom's: 1. Remember
ASM Topic : Module 05 Microbial Systems
ASM Objective : 05.04 Microorganisms, cellular and viral, can interact with both human and nonhuman h
Topic : History of Microbiology
Section: 01.04
Learning Outcome: 01.04a Construct a concept map, table, or drawing that illustrates the diverse nat
77) The branch of microbiology that studies the relationship between microorganisms and
their habitats is called
Question Details
Accessibility: Keyboard Navigation
Gradable: automatic
Bloom's: 1. Remember
ASM Topic : Module 05 Microbial Systems
Topic: History of Microbiology
Section: 01.04
Learning Outcome: 01.04a Construct a concept map, table, or drawing that illustrates the diverse nat ASM Objective: 05.03 Microorganisms and their environment interact with and modify each other.

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antibiotics, vaccines, steroids, alcohols, vitamins, amino acids, and enzymes.

\_\_\_\_\_ microbiology involves the use of microorganisms to make products such as

Access Gradal Bloom Topic ASM Section Learni	=	
		are scientists who investigate the synthesis of antibiotics and ergy with microorganisms, and the ways in which microorganisms conditions.
Access Gradal Bloom ASM Topic Section Learni	=	
<b>80</b> ) devel	Microbialopment and function of	focuses on the nature of heredity and how it regulates the feells and organisms.
Access Gradal Bloom ASM Topic Section Learni	_	
81)	A microbial	is a collection of strains that share many stable properties and

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differ significantly from other groups of strains.

#### **Question Details**

Bloom's: 2. Understand

ASM Topic : Module 01 Evolution Topic : Taxonomy of Microorganisms

Section: 01.02

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

Accessibility: Keyboard Navigation

Gradable: automatic

Learning Outcome: 01.02b Design a set of experiments that could be used to place a newly discovered

### **Answer Key**

Test name: CH01

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

#### **CH01**

- 26) B
- 27) D
- 28) B
- 29) C
- 30) B
- 31) C
- 32) A
- 33) C
- 34) B
- 35) C
- 36) B
- 37) A
- 38) C
- 39) D
- 40) C
- 41) B
- 42) C
- 43) A
- 44) C
- 45) B
- 46) D
- 47) B
- 48) B
- 49) C
- 50) B
- 51) D
- 52) A
- 53) A
- 54) B
- 55) B

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#### **CH01**

- 56) D
- 57) B
- 58) C
- 59) B
- 60) C
- 61) A
- 62) A
- 63) E
- 64) A
- 65) B
- 66) D
- 67) C
- 68) domains
- 69) lipids
- 70) phagocytosis
- 71) Redi
- 72) Winogradsky
- 73) Beijerinck
- 74) medical
- 75) immunology
- 76) Public health
- 77) microbial ecology
- 78) Industrial
- 79) physiologists
- 80) genetics
- 81) species