Environmental Science 16th edition Cunningham Test Bank

SKU: 9781264647842-TEST-BANK

TBEXAM.COM

Environmental Science Edition 16 by Cunningham

CORRECT ANSWERS ARE LOCATED IN THE 2ND HALF OF THIS DOC.

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

1) The process by which science works is useful to the general public as well as to scientists.
   - ◎ true
   - ◎ false

2) The progress of science is mainly happens when a scientist working in isolation and discovers something very important.
   - ◎ true
   - ◎ false

CHECK ALL THE APPLY. Choose all options that best completes the statement or answers the question.

3) Which of the following questions could be answered using the scientific method? (Select all that apply.)
   - A) Has atmospheric carbon dioxide increased since 1950?
   - B) Should we try to prevent species from going extinct?
   - C) Are there more chemicals in tap water compared to bottled water?
   - D) Do you need to take steps to reduce your ecological footprint?
   - E) Has the amount of electronic waste increased since the invention of cellphones?

TBEXAM.COM

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

4) Which of the following is not a basic principle of science?
   - A) We can learn through observation.
   - B) Simpler explanations are preferable.
   - C) Nothing can be absolutely proven.
   - D) All of these choices are correct.

5) Which of the following does not apply to manipulative experiments?
   - A) Extraneous variables are held constant.
   - B) Most experiments are done in the laboratory.
   - C) They are useful for studying large scale geologic forces.
   - D) They can be affected by experimenter bias.

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Environmental Science Edition 16 by Cunningham

6) In science, a theory is
   A) speculative and unsupported by facts.
   B) a tentative explanation, comparable to a hypothesis.
   C) an explanation supported by a substantial body of evidence.
   D) something that can never be proven wrong.

7) The process of science is characterized by all of the following except
   A) that science attempts to keep explanations as simple as possible.
   B) that science normally provides absolute proof.
   C) that science attempts to be objective.
   D) that science is inherently skeptical.

8) Scientific paradigms can be characterized by all of the following except
   A) once agreed upon remain unchanged forever.
   B) are broad patterns of thought that guide thinking.
   C) influence how we interpret evidence.
   D) determine which questions we understand to be relevant to issues at hand.

9) A person carefully gathering pieces of information to uncover a larger pattern is engaged in
   A) inductive reasoning.
   B) deductive reasoning.

TBEXAM.COM

10) Creating a generalization based on several observations is an example of
   A) deductive reasoning.
   B) inductive reasoning.

11) Which of the following is not an example of science?
   A) gut instinct
   B) testable hypotheses
   C) manipulative experiments
   D) observational studies
   E) natural experiments

12) Statistical tests
   A) provide us with raw numbers such as the number of people in a given city.
   B) focus on determining the probability that observed phenomena occurred by chance.
   C) are only used in science to influence political decision-making.
   D) provide only fake numbers.

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Environmental Science Edition 16 by Cunningham

13) Manipulative experiments
A) are not useful to ecologists because they depend on the natural environment.
B) are most often conducted in a laboratory.
C) do not allow the scientist to control variables.
D) are not possible.

14) Ecological systems often undergo periodic disturbances
A) such as floods and fires.
B) and show resilience when they recover quickly.
C) only in arid environments.
D) such as floods, fires, and show resilience when they recover quickly.

15) Positive feedback is a process
A) that is self-perpetuating.
B) where increases in a state variable lead to further increases.
C) that suppresses change.
D) that is self-perpetuating and where increases in a state variable lead to further increases.

16) In an ecosystem, throughput can refer to
A) matter that flows into the system but not out.
B) energy that originates in the system and flows out.
C) something that can expand the size of state variables.
D) the equilibrium state.

17) Homeostasis refers to
A) a tendency to change.
B) equilibrium.
C) spatial homogeneity.
D) the environment.

18) Which of the following is not an example of a disturbance in an ecosystem?
A) fire
B) drought
C) flash flood
D) shade

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

TBEXAM.COM

19) Sometimes severe disturbances can lead to a _____, in which conditions do not return to normal.
A) paradigm shift
B) state shift
C) feedback loop
D) system

20) _____ is a process for producing knowledge methodically and logically.
A) Universalism
B) Science
C) Relativism
D) Morality
E) Parsimony

21) Ideally, science
A) always has the right answers.
B) tells us what we expected to find.
C) uses new technology.
D) is orderly and methodical.
E) proves that our hypotheses are correct.

TBEXAM.COM

22) Which of the following is not an important feature of science?
A) reproducibility
B) parsimony
C) empiricism
D) positive proof

23) Generally, distinguished scientists
A) always agree if they really are expert scientists.
B) may have different interpretations of the same evidence.
C) never disagree once a theory is established.
D) believe each other and support each other in their work.
E) always disagree so they can prove theories.

24) Proof in science is always
A) firmly established.
B) beyond question.
C) an impossible goal.
D) constantly changing with little continuity between disciplines.
E) open to question or new evidence.

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Environmental Science Edition 16 by Cunningham

25) The statement, "Since every insect I have examined so far has six legs, I conclude that all insects must have six legs" is an example of
A) inductive reasoning.
B) deductive reasoning.
C) hypothesis testing.
D) reductive reasoning.
E) parsimony.

26) From the following statements and questions, which is the best example of deductive reasoning?
A) If all insects have six legs, then butterflies have six legs.
B) In repeated tosses of a coin, there is a 50/50 chance of each toss resulting in a "head".
C) How many times will the toss of coins turn "heads-up" if 100 times toss a coin?
D) Since every insect I have examined so far has six legs, I conclude that all insects must have six legs.
E) All of these are examples of deductive reasoning.

27) Although your sister is not a scientist, she says that she uses scientific techniques in her everyday life. You do not believe her but she insists it is true. Which of the following examples could she use to best persuade you?
A) When she cooks, she measures ingredients and puts them together to form something else (e.g., a cake).
B) When she drives in her car, she hypothesizes about things (e.g., when the red light will turn green).
C) She put some tomatoes in the sun and some in the shade to see if the sun causes them to ripen faster.
D) She buys a brand of toothpaste based on statistical data (four out of five dentists recommend it).
E) All of these are examples of using scientific techniques in her everyday life.

28) Experiments in which conditions are deliberately altered and all other variables are held constant are known as _____ experiments.
A) manipulative
B) natural
C) hypothetical
D) probability
E) double-blind

TBEXAM.COM

TBEXAM.COM

TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Environmental Science 16th edition Cunningham Test Bank

TBEXAM.COM

Environmental Science Edition 16 by Cunningham

29) Double-blind studies are especially useful in
A) genetic experiments.
B) health studies.
C) statistical analysis.
D) opinion surveys.
E) double-blind studies are not useful in any situation.

30) Which of the following scenarios are free from bias?
A) A scientist is conducting an experiment on liver disease that is funded by a university and has set up the experiment as a double-blind study testing of a new medication.
B) A scientist is conducting an experiment on liver disease that is funded by a pharmaceutical company and has set up the experiment as a double-blind study testing of a new medication.
C) A scientist is conducting an experiment on liver disease that is funded by a university and has set up the experiment study testing of a new medication and only gives the medicine to the healthiest patients.
D) A scientist is conducting an experiment on liver disease that is funded by a pharmaceutical company and has set up the experiment as a double-blind study testing of a new medication on people without liver disease as well as those with liver disease.

TBEXAM.COM

31) In experimentation, dependent variables are also known as _____ variables.
A) conventional
B) blind
C) response
D) model
E) distribution

32) _____ allow scientists to gather information about complicated and interrelated environmental systems.
A) Charts
B) Graphs
C) Models
D) Figures
E) Paradigm shifts

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

TBEXAM.COM

Environmental Science Edition 16 by Cunningham

33) Networks of interactions among interdependent factors are known as
A) science.
B) ecology.
C) systems.
D) processes.
E) negative feedback loops.

34) The damage to an ecosystem caused by a hurricane or flood can be referred to as
A) an open system.
B) an emergent property.
C) equilibrium in nature.
D) a disturbance.
E) negative feedback loop.

35) In a food chain, grass absorbs sunlight to make sugar, the grass is eaten by a rabbit, and the rabbit is eaten by a fox. What is a throughput that connects this system?
A) energy
B) sugar
C) the will to survive
D) ATP

TBEXAM.COM

36) Which of the following is a closed system?
A) a cave with abundant life that was sealed off from the outside world during a landslide 100 years ago.
B) an underwater ocean cave.
C) an aquarium.
D) a forest habitat.

37) Which of the following is an example of a negative feedback loop?
A) A small island is home to both wolves and deer. When the deer have high numbers, the wolves have plenty of prey to feed pups and their numbers increase. When the deer are heavily predated upon, the deer numbers decrease causing some of the wolves to starve.
B) Grass begins to grow on a recently plowed field.
C) Locusts begin to swarm, and when they encounter other non-swarming locusts, they too being to swarm.
D) A person is driving and is cut off by another driver, this causes the person to become angry and they begin to drive more aggressively, cutting off other drivers.

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Environmental Science Edition 16 by Cunningham

38) The ability of an ecosystem to recover from a disturbance is known as
A) resilience.
B) stability.
C) fitness.
D) emergence.

39) A scientific consensus
A) is typically broad in its statements.
B) uses feedback from many scientists.
C) can lead to paradigm shifts.
D) All of these answers are correct.

40) Science as a method relies on
A) a process of evaluating evidence to understand the natural world.
B) proving something to be true based on instinct.
C) asking any kind of question for which you want an answer.
D) paradigm shifts–likely the knowledge we have today is incorrect.
E) proving a hypothesis in order to understand the natural world.

41) In the late 1800s, more and more scientists began to accept the germ theory of disease in which germs, or small organisms, were the cause of disease. Prior to this, scientists assumed that bad air, or miasma, caused diseases such as cholera. This change in the generally accepted theory is termed
A) a paradigm shift.
B) the principle of repeatability.
C) science.
D) a scientific theory.
E) deductive reasoning.

42) Albedo is a measurement of reflectivity of a surface. Ice has high reflectivity so light from the sun will reflect off of it. Water has a lower reflectivity so more light and heat are absorbed. As ice melts reflectivity decreases and more heat is absorbed by the ice leading to even more melt. This is an example of
A) positive feedback.
B) negative feedback.
C) a closed system.
D) homeostasis.
E) a natural experiment.

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Environmental Science Edition 16 by Cunningham

43) You are working on a research project growing plants in a greenhouse. You have two sets of plants: one exposed to a treatment while the other is not exposed to the same treatment. You are measuring the effect of the treatment on leaf production (number of leaves produced by the plant). Which of the following would be an incorrect way to describe your experiment?
   A) The experiment is conducted in closed system because the plants are inside a building.
   B) This is a manipulative experiment because you are changing the growing conditions of one of the groups of plants.
   C) This is a controlled study because you have a set of plants without treatment for comparison.
   D) The dependent variable is leaf production because it is expected to change based on the treatment.
   E) The treatment is the independent or explanatory variable because it is expected to explain the differences in leaf production.

44) A longleaf pine woodland is adapted to periodic fires. During a burn, the trees are not killed, and shortly after a controlled burn, the native grasses and other herbaceous plants grow back. Which of the following statements is incorrect regarding this ecosystem?
   A) The ecosystem underwent a state shift to a new ecosystem.
   B) The fire was a disturbance to the ecosystem.
   C) The ecosystem showed resilience because it recovered from the fire.
   D) The ecosystem has a dynamic equilibrium where it can be disturbed but return back to normal.

45) Which of the following is an example of an emergent property?
   A) The grasses in a salt marsh grow close together, which provides a protected place for juvenile fish to live.
   B) A plant is made of cells, which carry out the metabolic activities for its survival.
   C) The parts of a plant include the stem and roots.
   D) The chloroplasts in a plant cell do photosynthesis to build sugar.
   E) A plant needs sunlight to grow.

46) It is known that certain macroinvertebrates (small aquatic organisms) are sensitive to polluted waters. Stonefly larvae, for example, are very sensitive to polluted water and low dissolved oxygen. You collect a lot of stonefly larvae in your study of a local stream and conclude that this stream has high levels of dissolved oxygen and is minimally polluted. Your conclusion is an example of
   A) deductive reasoning.
   B) inductive reasoning.

TBEXAM.COM

TBEXAM.COM

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Environmental Science 16th edition Cunningham Test Bank

Environmental Science Edition 16 by Cunningham

47) In the Arctic, warm summers melt ice. Water absorbs even more heat, which leads to further melting of ice. This leads to more water, which absorbs more heat to melt more ice. This is an example of
   A) positive feedback.
   B) negative feedback.
   C) stabilizing feedback.

SECTION BREAK. Answer all the part questions.

48) Susan is conducting an experiment to see if plants will grow better with application of fertilizer. She separates 50 plants into two groups of 25. One group receives a liquid fertilizer when watered every other day, and the other group receives only water on the same days. The plants are kept in a greenhouse with constant and equal amounts of sunlight, and a constant temperature. She measures the plants once a week for 12 weeks. At the end of 12 weeks, the plants with the fertilizer grew an average of 9 inches, and the ones that were not given the fertilizer grew an average of 5 inches.

48.1) In the scenario described above, the plants that received fertilizer are the _____ group, and the plants that did not receive fertilizer are the _____ group.
   A) treatment; control
   B) control; treatment
   C) treatment; exposed
   D) controlled; non-treatment

TBEXAM.COM

48.2) In the above scenario, why did Susan place the plants in a greenhouse and control the amount of sunlight and temperature?
   A) Keeping any factor that can influence a plant's growth, other than fertilizer, equal to all plants ensures that if there is a difference at the end, it will most likely be due to the fertilizer.
   B) It was an easy place to keep the plants.
   C) It did not make a difference. The fertilizer would have influenced growth even if the plants were part in sunlight and part in shade.
   D) The plants would have adapted to the situation regardless if the temperature is different.

TBEXAM.COM

TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Environmental Science 16th edition Cunningham Test Bank

TBEXAM.COM

Environmental Science Edition 16 by Cunningham

48.3) When referencing the above scenario, why did Susan average the resulting heights of the plants?

A) She wanted to account for the genetic variation in the plants.
B) Because two numbers are easier to compare than fifty numbers.
C) She liked showing off her knowledge of simple statistical analysis.
D) She wanted to account for differences in temperature and sunlight between the groups.

TBEXAM.COM

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

TBEXAM.COM

Environmental Science Edition 16 by Cunningham

Answer Key

Test name: Chapter 02

1) TRUE
2) FALSE
3) [A, C, E]
4) D
5) C
6) C
7) B
8) A
9) A
10) B
11) A
12) B
13) B
14) D
15) D
16) C
17) B
18) D
19) B
20) B
21) D
22) D
23) B
24) E
25) A
26) A
27) C
28) A
29) B
30) A
31) C
32) C
33) C
34) D
35) A
36) A
37) A

TBEXAM.COM

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank

TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

TBEXAM.COM

Environmental Science Edition 16 by Cunningham

38) A
39) D
40) A
41) A
42) A
43) A
44) A
45) A
46) A
47) A
48) Section Break
48.1) A
48.2) A
48.3) A

TBEXAM.COM

TBEXAM.COM

Environmental Science 16th edition Cunningham Test Bank
TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES