Sensation and Perception 11th edition Goldstein Test Bank

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Name:_____ Class:_____ Date:_____

Chapter 01 Introduction to Perception

1. "Perceiving machines" that can negotiate the environment with human-like ease
   a. were developed by computer scientists in the 1960s.
   b. were developed by computer scientists in the 1970s.
   c. were developed by computer scientists in the 1990s.
   d. have yet to be developed.

ANSWER: d

2. Knowing how perception works is interesting because perception is something you experience
   a. intermittently.
   b. when necessary.
   c. when important.
   d. constantly.

ANSWER: d

3. The only way to see, hear, taste, smell, and feel what you want to experience is by
   a. identifying stimulus inputs.
   b. discriminating among similar stimuli.
   c. developing necessary cognitive constructs.
   d. activating sensory receptors.

ANSWER: d

4. A worker's auditory receptors were damaged from failing to use hearing protection when working in a loud environment. As a result, we can expect that
   a. the areas of their brain associated with auditory perception will have diminished considerably in size.
   b. they can no longer hear anything.
   c. they will need to use hearing aids.
   d. their auditory experiences will differ from those of an individual whose receptors have not been damaged.

ANSWER: d

5. Which of the following is the first category of the stages in the perceptual process?
   a. Stimuli
   b. Neural processing
   c. Serendipity
   d. Behavioral responses

ANSWER: a

6. The process of transforming energy in the environment into electrical energy in the neurons is called
   a. refraction.
   b. transduction.
   c. reduction.
   d. construction.

ANSWER: b

7. What is the step in the perceptual process that is analogous to what happens during an ATM withdrawal, when pressure

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from the button press becomes electrical energy and then becomes a mechanical response, resulting in the dispensing of money?

a. Knowledge
b. Transference
c. Action
d. Transduction

ANSWER: d

8. The specific term for the "stimulus on the receptors" in visual processing is the

a. transduced image.
b. environmental stimulus.
c. visual image.
d. perception.

ANSWER: c

9. What is the term for the image projected on the retina of the actual stimulus?

a. Representation
b. Environmental stimulus
c. Replication
d. Scale model

ANSWER: a

10. Which brain structure is responsible for creating perceptions and producing other "high" level functions, such as language, memory, and thinking?

a. Brain stem
b. Cerebral cortex
c. Hypothalamus
d. Occipital lobe

ANSWER: b

11. Visual form agnosia is a problem of what step of the perceptual process?

a. Action
b. Attention
c. Transduction
d. Recognition

ANSWER: d

12. Which statement best describes the steps of the perceptual process?

a. The steps are unidirectional, starting at the environmental stimulus and ending at perception.
b. The steps are unidirectional, starting at the environmental stimulus and ending at knowledge.
c. The steps are unidirectional, starting at transduction and ending at recognition.
d. The sequence of steps is dynamic and constantly changing.

ANSWER: d

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Chapter 01 Introduction to Perception

13. If a person sees the unambiguous "rat" stimulus and then views the ambiguous "rat-man" figure, the person will most likely report seeing what?

a. A rat, because of the effect of knowledge.
b. A person, because we tend to see things that match our species.
c. A rat, because of the effect of action.
d. A rat or a person equally.

ANSWER: a

14. Justin forgot to wear his glasses to class, so the writing he sees on the chalkboard is blurry. Even so, he is sure it reads, "Pop Quiz!" because he knows there are pop quizzes in the class and he can read the "P" and the "Q". What allows him to read the board?

a. Bottom-up processing
b. Oblique processing
c. Top-down processing
d. Compression

ANSWER: c

15. What type of processing is based on the stimuli reaching the receptors?

a. Bottom-up
b. Oblique
c. Top-down
d. Receptor

ANSWER: a

16. Trying to read a note written by someone with poor handwriting involves

a. only top-down processing.
b. only bottom-up processing.
c. both top-down and bottom-up processing.
d. only data-based processing.

ANSWER: c

17. The physiological level of analysis involves the relationship between

a. stimulus and physiology only.
b. physiology and perception only.
c. stimulus and perception only.
d. both stimulus and physiology and physiology and perception.

ANSWER: d

18. Kimmy is casting shadows on the wall and watching whether or not her cat, Tiger, jumps at the shadows. She uses different hand motions to see if there is a difference in whether Tiger jumps or not. Kimmy is informally studying which relationship?

a. The stimulus-physiology relationship
b. The physiology-perception relationship
c. The stimulus-perception relationship
d. The perception-behavior relationship

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ANSWER: c

19. The psychophysical method in which stimuli of varying intensities are presented in ascending and descending orders in discrete steps is called the method of
    a. limits.
    b. constant stimuli.
    c. searching.
    d. scaling.

ANSWER: a

20. When using the method of limits, the absolute threshold is determined by calculating
    a. the stimulus intensity detected 66% of the time.
    b. the stimulus intensity detected 75% of the time.
    c. the stimulus intensity detected 100% of the time.
    d. the average of the "cross-over" values.

ANSWER: d

21. The method of limits takes into account the variability of human perception by
    a. consistently presenting subliminal stimuli to avoid bias.
    b. using deception to hide the true purpose.
    c. averaging the results of several trials.
    d. measuring brain activity concurrently.

ANSWER: c

22. Fechner's and Weber's methods not only made it possible to measure the ability to detect stimuli, but they also made it possible to
    a. determine mechanisms responsible for experiences.
    b. identify the subconscious rationales for the responses.
    c. provide scientific justification for introspection.
    d. localize brain lesions responsible for poor performance.

ANSWER: a

23. The smallest difference between two stimuli that enables us to tell the difference between them is called the
    a. necessary difference.
    b. difference threshold.
    c. discriminant equation.
    d. determinant level.

ANSWER: b

24. Based on the dark adaptation curve, what would you expect the absolute threshold to do as time in a darkened room increased?
    a. Get larger
    b. Remain unchanged
    c. Get smaller

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d. Vary unpredictably

ANSWER: c

25. One of the important limitations of the knowledge derived from determining thresholds is that
a. perception includes far more than just what happens at the threshold.
b. the methods are based fundamentally on introspection.
c. the outcomes are of extremely limited reliability.
d. generalization from the laboratory to real life is not possible.

ANSWER: a

26. A patient recently had a stroke that has damaged their ability to name objects. The neurologist shows the patient a pen and asks them to name what it is. This is best described as a test of
a. recognition.
b. magnitude.
c. reaction time.
d. description.

ANSWER: a

27. The game "Whack-a-Mole," in which the player must "whack" randomly appearing moles with a hammer as quickly as possible when they peek their heads out, is best described as what type of task?
a. Recognition
b. Magnitude
c. Reaction time
d. Description

ANSWER: c

28. A medical laboratory worker is being trained to read the results of certain laboratory tests. In this phase of training, the worker looks at prepared slides and then writes a summary of what they see. What type of task is this?
a. Recognition
b. Magnitude
c. Reaction time
d. Description

ANSWER: d

29. Which methods are used to measure the quantitative relationship between the stimulus and perception?
a. Description
b. The phenomenological methods
c. Reflection
d. Classical psychophysical methods

ANSWER: d

30. Fechner's psychophysical methods
a. are important from a historical perspective only.
b. were developed in the early 1960s.

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c. showed that mental activity cannot be measured quantitatively.
d. are currently used to test a person's hearing and vision.

ANSWER: d

31. What is it called when a participant is given a "standard stimulus" and is asked to assign a numerical value to that stimulus?
a. Recognition
b. Description
c. Phenomenological method
d. Magnitude estimation

ANSWER: d

32. The method of magnitude estimation yields a measure of what sort of magnitude?
a. Objective
b. Perceived
c. Difference
d. Absolute

ANSWER: b

33. As a part of the interview process for a job in quality control at a small, luxury chocolate manufacturer, an applicant is asked to taste small pieces of chocolate and then describe what they taste. The applicant is most likely being asked to provide a(n)
a. phenomenological report.
b. magnitude estimation.
c. adaptation curve.
d. absolute thresholds.

ANSWER: a

34. The question "What do you see?" is asking about
a. sensation.
b. discrimination.
c. recognition.
d. perception.

ANSWER: d

35. The question "What is it?" is asking about
a. sensation.
b. discrimination.
c. recognition.
d. perception.

ANSWER: d

36. Classical psychophysical methods opened the way for the founding of scientific psychology by providing methods to measure
a. an aspect of the mind.

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b. neurological activation.
c. response bias.
d. multicultural effects.

ANSWER: a

37. A driver in a car notices that stationary objects closer to them move faster than stationary objects that are farther away. The driver is using what technique regarding perception of a stimulus?
a. Detection
b. Search
c. Phenomenological
d. Magnitude estimation

ANSWER: c

38. A resident lives near the railroad tracks and often hears the loud bangs associated with cars being added to trains. When a friend visits, the friend becomes alarmed at the sounds, wondering what they are, but the resident is able to reassure their friend that it is a normal train-related sound. What skills does the resident have, at least in this situation, that are superior to their friend's?
a. Recognition
b. Detection
c. Search
d. Adjustment

ANSWER: a

39. An intern works for a company that designs adapted products to help people who have trouble grasping items. Today, the intern is meeting with children who have difficulty grasping as a result of traumatic brain injury, and has provided them with a supply of crayons, which have been adapted in various ways. The intern watches as the children color with the crayons. Which question is the intern most likely asking?
a. How quickly do the children react to the crayons?
b. How do the children interact with the crayons?
c. How do the children describe the crayons?
d. Can the children identify the crayons?

ANSWER: b

40. What spectrum is a band of energy ranging from gamma rays at the short-wave end of the spectrum to AM radio and AC circuits at the long-wave end?
a. Light
b. Sound
c. Electromagnetic
d. Perceptual

ANSWER: c

41. According to Ludy Benjamin, if changes in physical stimuli always resulted in similar changes in perception of those stimuli,
a. the world would be unbearably complex.
b. remediation of sensory deficits would be impossible.

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c. there would be no need for psychology.
d. the neurophysiology of perception would be clear.

ANSWER: c

42. The part of the electromagnetic spectrum visible to the human eye is found between which two bands?
a. Ultraviolet and infrared
b. X-rays and ultraviolet
c. Gamma rays and x-rays
d. Infrared and radar

ANSWER: a

43. Discuss the difference between sensation and perception.

ANSWER: Sensation is often identified as involving simple "elementary" processes that occur right at the beginning of a sensory system, as when light stimulates receptors in the eye. In contrast, perception is identified with complex processes that involve higher-order mechanisms, such as interpretation and memory that involve activity in the brain. Therefore,it is often stated that sensation involves detecting elementary properties of a stimulus (Carlson, 2010), and that perception involves the higher brain functions involved in interpreting events and objects (Myers, 2004).

44. Name the five questions about the perceptual world outlined in the text and provide an example for each.

ANSWER: What is the perceptual magnitude of a stimulus?
What is the identity of the stimulus?
How quickly can someone react to the stimulus?
How can what is "out there" be described?
How can someone interact with what is "out there?"
Examples will vary.

45. List seven steps from a stimulus in the environment to an action by the perceiving individual, illustrating each step with an example.

ANSWER: Stimulus in the environment
Stimulus passes through the environment to the receptors
Receptor processes
Neural processing
Perception
Recognition
Action
Examples will vary.

46. (a) Define "top-down" and "bottom-up" processing.
(b) Discuss how the "rat-man" demonstration is used to exemplify the distinction between these two types of processing.

ANSWER: Bottom-up processing (also called data-based processing) is processing that is based on the stimuli reaching the receptors. Top-down processing (also called knowledge-based processing) refers to processing that is based on knowledge.

The rat–man demonstration shows how recently acquired knowledge ("that pattern is a rat") can influence perception. When individuals are initially shown a figure that looks like a rat, they are more likely to identify an ambiguous rat-man figure as a rat while those who initially see a man are more likely to identify it as a man.

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Chapter 01 Introduction to Perception

47. Name and provide examples of the three relationships used to study perceptual processes.

ANSWER: Relationship A: The stimulus–perception relationship
Relationship B: The stimulus–physiological relationship
Relationship C: The physiology–perception relationship

48. Describe the method of limits and how it is used.

ANSWER: In the method of limits, the experimenter presents stimuli in either ascending order (intensity is increased) or descending order (intensity is decreased). For example, suppose an experimenter is studying the perception of tones. On the first series of trials, the experimenter begins by presenting a tone with an intensity we will call 103, and the observer indicates by a "yes" response that he hears the tone. This response is indicated by a Y at an intensity of 103 in the far left column of the table. The experimenter then presents another tone, at a lower intensity, and the observer responds to this tone. This procedure continues, with the observer making a judgment at each intensity until he responds "no," he did not hear the tone. This change from "yes" to "no," indicated by the dashed line, is the crossover point, and the threshold for this series is taken as the mean between 99 and 98, or 98.5. The next series of trials begins below the observer's threshold, so that he says "no" on the first trial (intensity 95) and continues until he says "yes" (when the intensity reaches 100). Notice that the crossover point when starting below the threshold is slightly different. Because the crossover points may vary slightly, this procedure is repeated a number of times, starting above the threshold half the time and starting below the threshold half the time. The threshold is then determined by calculating the average of all of the crossover points.

49. What is meant by the absolute threshold? What about the difference threshold?

ANSWER: The absolute threshold is the smallest stimulus level that can just be detected. The difference threshold is the smallest difference between two stimuli that enables us to tell the difference between them.

50. Why is the difference between physical and perceptual important?

ANSWER: What physical measuring instruments record and what we perceive are two different things. The Hermann grid creates an "illusory perception" in which we perceive dark spots that are not physically present. But sometimes we fail to perceive stimuli that are physically present. Perception is psychology, not physics, and perceptual responses are not necessarily the same as the responses of physical measuring devices.

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