Chapter 1: The Science of the Mind

MULTIPLE CHOICE

1. Which of the following topics is NOT commonly studied within cognitive psychology?
   a. dreaming
   b. decision-making
   c. memory
   d. attention

   ANS: A   DIF: Easy   REF: The Scope of Cognitive Psychology
   OBJ: Applied

2. Patients suffering from clinical amnesia are characterized by a disorder in their:
   a. memory
   b. ability to recognize patterns
   c. speech
   d. ability to comprehend language

   ANS: A   DIF: Easy   REF: The Scope of Cognitive Psychology
   OBJ: Factual

3. Which of the following statements is LEAST likely to appear in a description of an amnesia patient, such as H.M.?
   a. "He cannot remember what he did earlier today, including events that took place just an hour ago."
   b. "He read this story last month, but he was still surprised by how the story turned out."
   c. "Even though he has encountered the nurse many times, he is still unable to recognize her."
   d. "He has gradually adjusted over the last few months to the news of his uncle's death."

   ANS: D   DIF: Medium   REF: The Scope of Cognitive Psychology
   OBJ: Applied

4. The term "introspection" refers to the:
   a. process by which one individual seeks to infer the thoughts of another individual
   b. procedure of examining thought processing by monitoring the brain's electrical activity
   c. process of each person looking within, to observe his or her own thoughts and ideas
   d. technique of studying thought by interpreting the symbols used in communication

   ANS: C   DIF: Easy   REF: The Years of Introspection
   OBJ: Factual

5. A participant is asked to look within him- or herself and report on his or her own mental processes. This method is called:
   a. self-reflection
   b. self-monitoring
   c. introspection
   d. mentalistic study

   ANS: C   DIF: Easy   REF: The Years of Introspection
   OBJ: Factual

6. Which of the following statements is NOT a concern about the use of introspection as a research tool?
   a. A verbal report based on introspection may provide a distorted picture of mental processes that were nonverbal in nature.
   b. Different participants use different terms to describe similar experiences.
   c. At present, there is enormous uncertainty about the relationship between the activity in the brain and the ideas and thoughts available to introspection.
   d. Participants' motivation may influence what they choose to disclose.

   ANS: C   DIF: Medium   REF: The Years of Introspection
   OBJ: Applied

7. Introspection, by definition, CANNOT be used to study:
   a. topics that are strongly colored by emotion
   b. mental events that are unconscious
   c. processes that involve conceptual knowledge
   d. events that take a long time to unfold

   ANS: B   DIF: Easy   REF: The Years of Introspection
   OBJ: Factual

8. Which of the following statements provides the MOST serious obstacle to the use of introspection as a source of scientific evidence?
   a. When facts are provided by introspection, we have no way to assess the facts themselves, independent of the reporter's particular perspective on the facts.
   b. Introspection requires an alert, verbally expressive investigator; otherwise, the evidence provided by introspection will be of poor quality.
   c. Introspection provides evidence about some mental events but cannot provide evidence about unconscious processes or ideas.
   d. The process of reporting on one's own mental events can take a lot of time and can slow down the processes under investigation.

   ANS: A   DIF: Difficult   REF: The Years of Introspection
   OBJ: Applied

9. Which of the following would a classical behaviorist be LEAST likely to study?
   a. a participant's response to a particular situation
   b. a participant's beliefs
   c. changes in a participant's behavior that follow changes in the environment
   d. principles that apply equally to human behavior and to the behavior of other species

   ANS: B   DIF: Medium   REF: The Years of Behaviorism
   OBJ: Applied

10. Historically, the movement known as behaviorism was encouraged by scholars' concerns regarding:
    a. psychotherapy
    b. an exaggerated focus on participants' responses
    c. research based on introspection
    d. a focus on brain mechanisms and a corresponding inattention to mental states

    ANS: C   DIF: Easy   REF: The Years of Behaviorism
    OBJ: Applied

11. One important difference between classical behaviorism and cognitive psychology is that cognitive psychology:
    a. argues that unobservable mental states can be scientifically studied
    b. rejects the use of human participants
    c. insists on studying topics that can be directly and objectively observed
    d. emphasizes the evolutionary roots of our behavior

    ANS: A   DIF: Medium   REF: The Years of Behaviorism
    OBJ: Applied

12. Modern psychology turned away from behaviorism in its classic form because:
    a. our behavior is routinely determined by our understanding of stimuli
    b. humans are more similar to computers than to other species studied in the laboratory
    c. psychology rejected behaviorism's emphasis on an organism's subjective states
    d. an organism's behavior can be changed by learning

    ANS: A   DIF: Medium   REF: The Years of Behaviorism
    OBJ: Conceptual

13. Behaviorists study organisms':
    a. expectations   c. dreams
    b. desires and motivations   d. responses

    ANS: D   DIF: Easy   REF: The Years of Behaviorism
    OBJ: Factual

14. If Sheila says, "Pass the salt, please," you are likely to pass her the salt. You'll probably respond in the same way if Sheila (a chemistry major) instead asks, "Could you please hand me the sodium chloride crystals?" This observation seems to indicate that our behavior is:
    a. primarily controlled by the physical characteristics of the stimuli we encounter
    b. shaped by the literal meanings of the stimuli we encounter
    c. determined by simple associations among the stimuli we encounter
    d. governed by what the stimuli we encounter mean to us

    ANS: D   DIF: Difficult   REF: The Years of Behaviorism
    OBJ: Conceptual

15. Cognitive psychology often relies on the transcendental method in which:
    a. mental events are explained by referring to events in the central nervous system
    b. information from introspection transcends behavioral data
    c. researchers seek to infer the properties of unseen events on the basis of the observable effects of those events
    d. theories are tested via computer models

    ANS: C   DIF: Easy   REF: The Roots of the Cognitive Revolution
    OBJ: Factual

16. The philosopher Immanuel Kant based many of his arguments on transcendental inferences. A commonplace example of such an inference is a:
    a. physicist inferring what the attributes of the electron must be on the basis of visible effects caused by the electron
    b. computer scientist inferring what the attributes of a program must be on the basis of his or her long-range goals for the program's functioning
    c. biologist inferring how an organism is likely to behave in the future on the basis of assessment of past behaviors
    d. behaviorist inferring how a behavior was learned on the basis of a deduction from well-established principles of learning

    ANS: A   DIF: Medium   REF: The Roots of the Cognitive Revolution
    OBJ: Applied

17. Consider the sentence "Sam, tired from hours of reading and working on his term paper, fell into bed at last." When you reach the sentence's 13th word ("fell"), you need to remember how the sentence began; otherwise, you won't know who fell into bed. The memory used for this task is called:
    a. episodic memory   c. generic memory
    b. working memory   d. long-term memory

    ANS: B   DIF: Medium   REF: Working Memory: Some Initial Observations
    OBJ: Applied

18. In an experimental procedure, participants hear a sequence of letters and then, a moment later, are required to repeat back the sequence. The longest sequence for which participants can easily do this is likely to contain _____ letters.
    a. three   c. seven
    b. five   d. twelve

    ANS: C   DIF: Easy   REF: Working Memory: Some Initial Observations
    OBJ: Factual

19. A participant hears the sequence "F, D, P, U, G, Q, R" and then, a moment later, must repeat the sequence aloud. If errors occur in this procedure, they are likely to involve:
    a. soundalike confusions; for example, "T" instead of "D"
    b. look-alike confusions; for example, "O" instead of "Q"
    c. confusions with near neighbors in the alphabet; for example, repeating "G" instead of "F"
    d. confusions because of strong associations; for example, "I" instead of "Q" because of the familiarity of "I.Q."

    ANS: A   DIF: Medium   REF: Working Memory: A Proposal
    OBJ: Applied

20. Theorists have proposed that working memory is best understood as a system involving multiple components. The activities of this system are controlled by a resource called the:
    a. buffer   c. central processor
    b. supervisor   d. central executive

    ANS: D   DIF: Easy   REF: Working Memory: A Proposal
    OBJ: Factual

21. Within the working-memory system, mental "scratch pads" are available to allow the storage of information soon to be needed but not currently in use. A crucial scratch pad is the:
    a. output buffer
    b. executive assistant
    c. response planning system
    d. articulatory rehearsal loop

    ANS: D   DIF: Medium   REF: Working Memory: A Proposal
    OBJ: Factual

22. The technical term for talking to yourself when rehearsing verbal material is:
    a. vocal memory
    b. schizophrenia
    c. subvocalization
    d. subconscious reading

    ANS: C   DIF: Easy   REF: Working Memory: A Proposal
    OBJ: Factual

23. In using the articulatory rehearsal loop, the central executive temporarily relies on storage in:
    a. a phonological buffer
    b. episodic memory
    c. a subvocal bank
    d. a visual form in visual memory

    ANS: A   DIF: Easy   REF: Working Memory: A Proposal
    OBJ: Factual

24. Subvocalization is also known as:
    a. the reading buffer
    b. the inner voice
    c. the inner ear
    d. memory speech

    ANS: B   DIF: Easy   REF: Working Memory: A Proposal
    OBJ: Factual

25. Participants in an experiment are shown a series of digits, and then asked to repeat them back a moment later. While being shown the sequence, the participants are required to say "tah, tah, tah" out loud, over and over again. The evidence indicates that the recitation of "tah, tah, tah" will:
    a. have no effect on participants' memory performance
    b. provide a rhythm that helps organize participants' rehearsal of the digits, thereby improving their memory performance
    c. block participants from using their inner voice to rehearse the digits, thereby interfering with the memory task
    d. force participants to rely on the central executive rather than on a less powerful lower-level assistant, thereby improving memory performance

    ANS: C   DIF: Medium   REF: Evidence for the Working-Memory System
    OBJ: Conceptual

26. The task of saying "tah, tah, tah" while taking a span test to assess working memory is known as:
    a. concurrent articulation
    b. working-memory speech
    c. subvocalization
    d. the phonological buffer

    ANS: A   DIF: Easy   REF: Evidence for the Working-Memory System
    OBJ: Factual

27. Participants are shown a series of complex shapes (that are not easily named) and asked to draw them from memory after they have been taken away. Which of the following statements about this is TRUE?
    a. On average, participants can correctly draw ten of the shapes from memory.
    b. Participants can use the process of subvocalization to help them remember the shapes.
    c. Concurrent articulation decreases performance dramatically.
    d. Saying "tah, tah, tah" out loud while doing this task should not affect performance.

    ANS: D   DIF: Difficult   REF: Evidence for the Working-Memory System
    OBJ: Applied

28. Evidence from anarthric (speechless) patients suggests that:
    a. muscles necessary for speech are also needed for subvocalization
    b. subvocalization does not use words
    c. muscles needed for speech are not needed for subvocalization
    d. these patients are unable to subvocalize

    ANS: C   DIF: Medium   REF: The Nature of the Working-Memory Evidence
    OBJ: Applied

29. Evidence from neuroimaging studies suggests that subvocalization is MOST closely related to:
    a. speaking out loud, because the same muscles are used
    b. remembering a feeling
    c. visual imagery
    d. planning to speak, because some of the same brain regions are active as in normal speech planning

    ANS: D   DIF: Difficult   REF: The Nature of the Working-Memory Evidence
    OBJ: Factual

30. Central to research in neuropsychology is:
    a. the use of introspection
    b. how brain dysfunctions affect performance
    c. brain development
    d. the use of brain-imaging technology

    ANS: B   DIF: Medium   REF: The Nature of the Working-Memory Evidence
    OBJ: Applied

31. Recent developments in brain-imaging technology can help us in cognitive psychology. For example, we can now tell exactly which parts of the brain are especially engaged in working-memory rehearsal. These techniques are the central sources of data for:
    a. modeling   c. developmental imaging
    b. neuropsychology   d. cognitive neuroscience

    ANS: D   DIF: Medium   REF: The Nature of the Working-Memory Evidence
    OBJ: Factual

32. In cognition, like other sciences, we first develop _____ and then _____ them.
    a. tests; prove   c. hypotheses; prove
    b. theories; test   d. hypotheses; test

    ANS: D   DIF: Medium   REF: The Roots of the Cognitive Revolution
    OBJ: Applied

33. Which of the following statements about introspection is NOT true?
    a. It is based on opinions, not facts.
    b. It is subjective.
    c. It provides a testable hypothesis.
    d. It was an early form of evidence.

    ANS: C   DIF: Medium   REF: The Years of Introspection
    OBJ: Factual

34. The process of taking observable information and inferring a cause is known as:
    a. mentalistic inference
    b. transcendental method
    c. cause and effect
    d. introspection

    ANS: B   DIF: Medium   REF: The Years of Introspection
    OBJ: Factual

35. The great change in cognitive psychology is referred to as a revolution because:
    a. the focus changed from behaviors to the processes underlying those behaviors
    b. the change was accompanied by violence
    c. the focus changed from animals to humans
    d. philosophers such as Kant were strongly opposed to the change

    ANS: A   DIF: Easy   REF: The Roots of the Cognitive Revolution
    OBJ: Applied

36. An elderly woman has suffered a stroke in her left temporal lobe, and consequently can no longer name common nouns. This provides evidence that language is located in the left hemisphere for most people. What kind of evidence is this?
    a. introspection
    b. unique population
    c. neuroscience
    d. behavioral

    ANS: C   DIF: Medium   REF: The Years of Introspection
    OBJ: Applied

37. The multicomponent model of working memory shows that:
    a. cognitive theories must be accompanied by a model
    b. we can only test things we can physically see
    c. theories are built around testable predictions
    d. evidence from multiple sources often leads to confusion

    ANS: C   DIF: Medium   REF: The Roots of the Cognitive Revolution
    OBJ: Conceptual

38. H.M. provides an illustration for which major theme of the chapter?
    a. Introspection is not sufficient evidence in and of itself.
    b. Cognition is interested in mental processes, as well as activities that depend on these processes.
    c. Memory is very important.
    d. Damage to a small part of the brain can have a big effect on behavior.

    ANS: B   DIF: Difficult   REF: The Scope of Cognitive Psychology
    OBJ: Conceptual

39. Cognitive processes are NOT necessary for which daily activity?
    a. reading a newspaper
    b. studying for a test
    c. talking on the phone
    d. breathing

    ANS: D   DIF: Easy   REF: The Scope of Cognitive Psychology
    OBJ: Applied

40. Introspection is considered the first step toward cognitive psychology as a science because:
    a. it was the first attempt to observe and record the content of mental processes
    b. interpretation of our mental lives requires training
    c. conscious events are just as important as unconscious events
    d. it provided the first testable claims

    ANS: A   DIF: Medium   REF: The Years of Introspection
    OBJ: Conceptual

41. Span tests measure:
    a. size of phonological buffer
    b. working-memory capacity
    c. whether there is a central executive
    d. articulatory loop processing

    ANS: B   DIF: Easy   REF: Working Memory: Some Initial Observations
    OBJ: Factual

42. We know the storage loop is separate from the other components of working memory because:
    a. the multicomponent model is true
    b. manipulations like concurrent articulation compromises the loop, but does not affect the other components
    c. it is used for storage, and the other components are not
    d. problem-solving does not require the storage loop

    ANS: B   DIF: Difficult   REF: Evidence for the Working-Memory System
    OBJ: Applied

43. Even though the articulatory loop cannot be seen directly, we are confident it exists because:
    a. it is the only possible explanation
    b. without it, we could not remember phone numbers
    c. people with anarthria show phonological buffer deficits
    d. behavioral manipulations suggest it is a distinct component

    ANS: D   DIF: Medium   REF: The Nature of the Working-Memory Evidence
    OBJ: Applied

44. Cognitive psychology relies on evidence from multiple domains (behavioral, neuroscience, trauma, etc.) because:
    a. we cannot see the cognitive processes directly
    b. it's better to have more evidence
    c. converging evidence provides additional opportunities for predictions
    d. other sciences require evidence from many places

    ANS: A   DIF: Difficult   REF: The Nature of the Working-Memory Evidence
    OBJ: Applied

45. Which of the following kinds of evidence would NOT be used in cognitive psychology?
    a. case studies of patients with brain damage
    b. behavioral findings such as response times
    c. brain activity in the form of fMRI
    d. self-reported dreams

    ANS: D   DIF: Easy   REF: The Nature of the Working-Memory Evidence
    OBJ: Applied

46. Working memory provides one example of how:
    a. important memory is to cognition
    b. cognitive processes are essential to all daily tasks
    c. children develop memory
    d. we could not function without a multicomponent system

    ANS: B   DIF: Easy   REF: Working Memory in a Broader Context
    OBJ: Applied