# Test Bank for Biopsychology 11th Edition by Pinel

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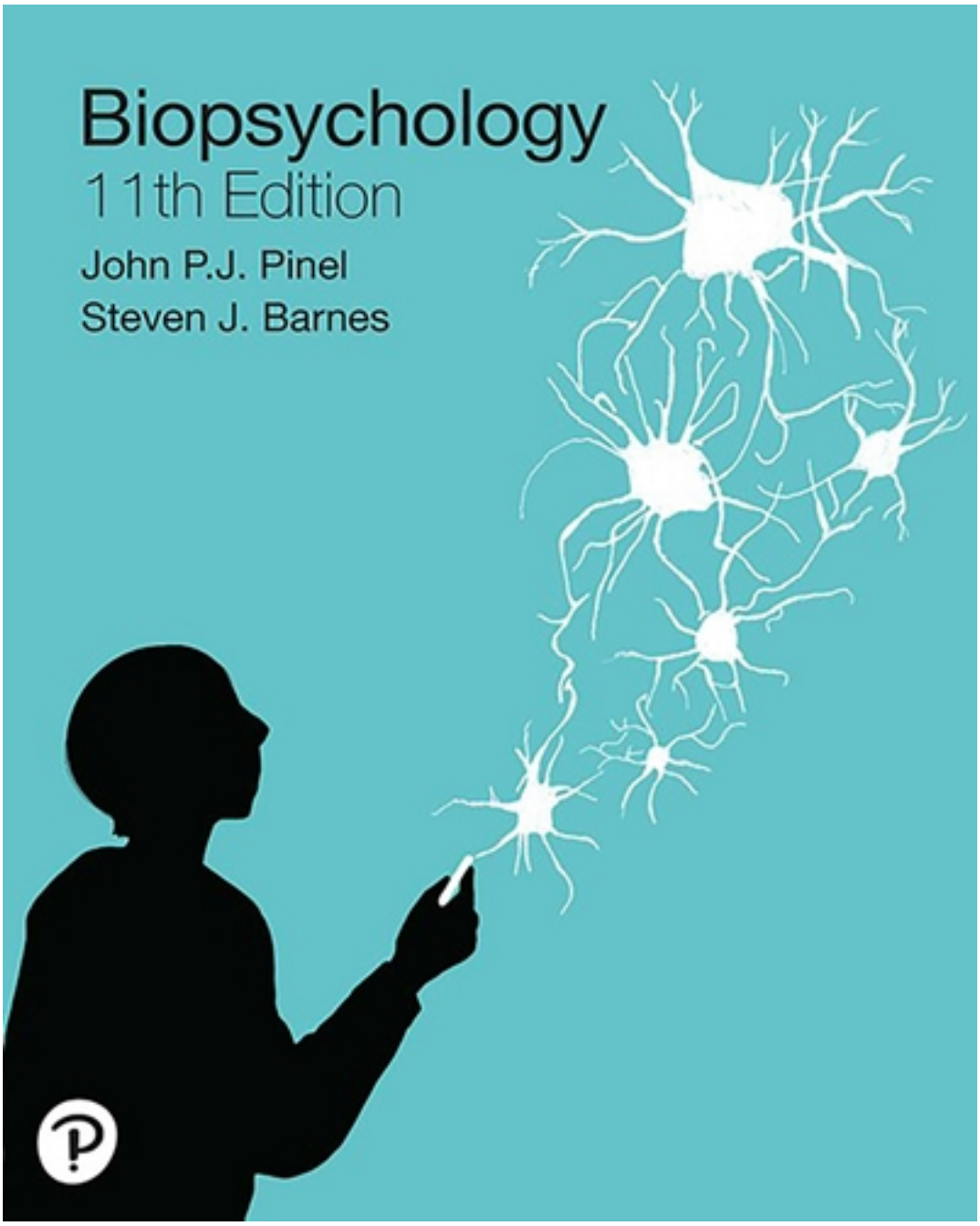


# Test Bank

# CHAPTER 1
# BIOLOGY AS A NEUROSCIENCE: WHAT IS BIOPSYCHLOGY, ANYWAY?

## Total Assessment Guide (T.A.G.)

| Topic | Question Type | Remember the Facts | Understand the Concepts | Apply What You Know |
|---|---|---|---|---|
| What Is Biopsychology? | Multiple Choice | 1-4, 6-10, 13, 15, 16 | 5, 11, 12, 14 | |
| | Fill-In | 1-3 | | |
| | Essay | 1 | | |
| What Types of Research Characterize the Biopsychological Approach? | Multiple Choice | 17-21, 23-25, 27-31, 33, 34 | 22, 26 | 32 |
| | Fill-In | 4, 6 | | 5 |
| | Essay | | 2, 3 | |
| What Are the Dvisions of Biopsychology? | Multiple Choice | 35, 36, 39-41, 43-49 | 37, 38, 42 | |
| | Fill-In | 7-12 | | |
| | Essay | | 4, 5 | |
| How Do Biopsychologists Conduct Their Work? | Multiple Choice | 50-54, 56 | 55, 57 | |
| | Fill-In | 13-15 | | |
| | Essay | | 6 | |
| Thinking Critically about Biopsychological Claims | Multiple Choice | 58-65 | | |
| | Fill-In | 16-18 | | |
| | Essay | | 7 | |

**MULTIPLE CHOICE QUESTIONS**

1. The human brain weighs about

    a. 0.3 kilograms (0.7 pounds).
    b. 0.8 kilograms (1.8 pounds).
    c. 1.0 kilograms (2.2 pounds).
    d. 1.3 kilograms (2.9 pounds).
    e. 2.3 kilograms (5.1 pounds).

Answer: D
Difficulty Level: Moderate
Topic: Introduction
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2. The human brain is composed of various cells, including those specialized to receive and transmit electrochemical signals, which are known as

    a. glial cells.
    b. axons.
    c. neurons.
    d. oligodendroglia.
    e. sulci.

Answer: C
Difficulty Level: Easy
Topic: Introduction
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

3. The scientific study of the nervous system is called

   a. neuroscience.
   b. psychology.
   c. biopsychology.
   d. neurochemistry.
   e. neurophysiology.

Answer: A
Difficulty Level: Easy
Topic: Introduction
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

4. Jimmie G., “the man frozen in time” described in the chapter vignette, had a severe problem with his

   a. memory.
   b. temperature regulation.
   c. intellectual functioning.
   d. allocation of attention.
   e. ability to recognize faces.

Answer: A
Difficulty Level: Easy
Topic: Introduction
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

5. Eduardo wants to understand the development of the human brain by comparing it to the brains of other species and theorizing about the environmental pressures that helped to shape those brains over the long process of historical time. Which perspective on biopsychology is Eduardo adopting?

    a. historiography
    b. conscious awareness perspective
    c. clinical perspective
    d. computational perspective
    e. evolutionary perspective

Answer: E
Difficulty Level: Easy
Topic: Four Major Themes of This Text
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

6. Understanding the ongoing interaction between genes and experience is the subject matter of

    a. the clinical perspective.
    b. biochemistry.
    c. epigenetics.
    d. neuroanatomy.
    e. consciousness.

Answer: C
Difficulty Level: Easy
Topic: Emerging Themes of This Text
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

7. Biopsychology is the scientific study of the

   a. biology of behavior.
   b. brain.
   c. evolution of the brain.
   d. anatomy of the brain.
   e. chemistry underlying cognition.

Answer: A
Difficulty Level: Easy
Topic: Defining Biopsychology Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

8. Psychobiology, behavioral biology, and behavioral neuroscience are all approximate synonyms for

   a. cognitive behavior.
   b. behavioral psychology.
   c. biopsychology.
   d. neurophysiology.
   e. neuroscience.

Answer: C
Difficulty Level: Moderate
Topic: Defining Biopsychology
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

9. Psychology is defined as the scientific study of

   a. the physical determinants of behavior.
   b. behavior.
   c. emotional processes.
   d. the brain.
   e. learning and conditioning.

Answer: B
Difficulty Level: Easy
Topic: Defining Biopsychology
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

10. The scientist who played a key role in the emergence of biopsychology as a discipline by writing *The Organization of Behavior* was

   a. Roger Walcott Sperry.
   b. Donald Olding Hebb.
   c. Karl Spencer Lashley.
   d. Brenda Milner.
   e. Wilder Graves Penfield.

Answer: B
Difficulty Level: Moderate
Topic: What Are the Origins of Biopsychology?
Learning Objective: 1.2 Discuss the origins of the field of biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

11. The science of biopsychology, as it is practiced today, emerged as a discipline around the

    a. 1890s.
    b. 1920s.
    c. 1960s.
    d. 1980s.
    e. 1940s.

Answer: E
Difficulty Level: Difficult
Topic: What Are the Origins of Biopsychology?
Learning Objective: 1.2 Discuss the origins of the field of biopsychology.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

12. Compared to the others, which is the youngest scientific discipline?

    a. physics
    b. astronomy
    c. biology
    d. biopsychology
    e. chemistry

Answer: D
Difficulty Level: Easy
Topic: What Are the Origins of Biopsychology?
Learning Objective: 1.2 Discuss the origins of the field of biopsychology.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

13. Biopsychology is a branch or division of

    a. neuropsychology.
    b. psychophysiology.
    c. neuroscience.
    d. neuroanatomy.
    e. chemistry.

Answer: C
Difficulty Level: Moderate
Topic: How Is Biopsychology Related to the Other Disciplines of Neuroscience?
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

14. What distinguishes biopsychology from the other subdisciplines of neuroscience?

    a. its focus on the study of behavior
    b. its focus on using animal studies
    c. its focus on psychiatric disorders
    d. its focus on the chemistry of psychoactive drugs
    e. its focus on pathology of the nervous system

Answer: A
Difficulty Level: Moderate
Topic: How Is Biopsychology Related to the Other Disciplines of Neuroscience?
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology’s content domains.

15. Which subdiscipline of neuroscience focuses on the study of nervous system dysfunction?

a. ethology
b. biopsychology
c. developmental neurobiology
d. neuropathology
e. neuroendocrinology

Answer: D
Difficulty Level: Moderate
Topic: How Is Biopsychology Related to the Other Disciplines of Neuroscience?
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

16. Structure of the nervous system is to function of the nervous system as

a. biopsychology is to psychology.
b. neuroanatomy is to neurophysiology.
c. neuropathology is to clinical psychology.
d. neuroscience is to biopsychology.
e. biopsychology is to neuroscience.

Answer: B
Difficulty Level: Difficult
Topic: How Is Biopsychology Related to the Other Disciplines of Neuroscience?
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

17. Which animals are currently the most common nonhuman subjects of biopsychological research?

a. dolphins
b. chimpanzees
c. dogs
d. rats and mice
e. cuttlefish

Answer: D
Difficulty Level: Moderate
Topic: Human and Nonhuman Subjects
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

18. The differences between human brains and the brains of related species tend to be

a. verifiable rather than quantifiable.
b. quantitative rather than qualitative.
c. superficial.
d. qualitative rather than quantitative.
e. quantifiable rather than verifiable.

Answer: B
Difficulty Level: Difficult
Topic: Human and Nonhuman Subjects
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

19. The evaluation of brain-behavior relations across different species is called

    a. the comparative approach.
    b. ethology.
    c. biopsychology.
    d. evolutionary biology.
    e. neuropharmacology.

Answer: A
Difficulty Level: Easy
Topic: Human and Nonhuman Subjects
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

20. An advantage of conducting biopsychological research on nonhuman animals as opposed to humans is that

    a. the brains of nonhumans are simpler.
    b. there are greater ethical constraints when studying nonhumans.
    c. compiling detailed information within a single species advances science quickly.
    d. a greater amount of research funding is available for nonhuman research.
    e. the brain structures across species are virtually identical.

Answer: A
Difficulty Level: Easy
Topic: Human and Nonhuman Subjects
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

21. One advantage of studying humans rather than other species in biopsychological research is that humans

    a. rarely miss data collection appointments due to illness or forgetfulness.
    b. are often cheaper to obtain as research participants.
    c. can assist experimenters in designing a study.
    d. show considerable variation in the structures of their brains.
    e. are unlikely to be uncooperative during the course of an experiment.

Answer: B
Difficulty Level: Moderate
Topic: Human and Nonhuman Subjects
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

22. The term "within-subjects design" refers to experiments in which

    a. each research subject is exposed to each condition of the experiment.
    b. a different group of subjects is tested in each condition of the experiment.
    c. some groups of subjects receive drug injections.
    d. invasive procedures are used, such as those in which the internal physiology of the subjects is manipulated.
    e. an individual subject is studied intensively over a period of time.

Answer: A
Difficulty Level: Difficult
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

23. In a successful experiment, the independent variable affects the

    a. confounded variable.
    b. dependent variable.
    c. correlated variable.
    d. repeated-measures variable.
    e. manipulated variable.

Answer: B
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

24. In a well-designed experiment, there is only one systematic difference between the conditions. This difference is manipulated by the experimenter and is called the

    a. between-subject variable.
    b. within-subject variable.
    c. dependent variable.
    d. independent variable.
    e. confounded variable.

Answer: D
Difficulty Level: Easy
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

25. The presence of which variable makes it difficult to reach causal conclusions about experimental outcomes?

a. independent variables
b. dependent variables
c. constant variables
d. confounded variables
e. manipulated variables

Answer: D
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

26. The Coolidge effect refers to the fact that

a. rats often experience harmful bouts of lordosis after engaging in sexual activity.
b. a sexually-fatigued animal will often resume sexual activity if its current partner is replaced with a new one.
c. the members of some species do not become sexually fatigued, even after hours-long periods of copulation.
d. male animals tend to become sexually fatigued at a faster rate than do female animals.
e. prolonged copulation is more difficult for females to maintain than for males.

Answer: B
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology’s content domains.

27. An experiment conducted by Gillian Lester and Boris Gorzalka, published in 1988, is significant because it provided the first strong evidence of a Coolidge effect in

    a. females.
    b. humans.
    c. nonhumans.
    d. hamsters.
    e. rats.

Answer: A
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

28. The posture of lordosis in a female rodent indicates that she

    a. is searching for food.
    b. will attack if provoked.
    c. is defending a litter of pups.
    d. is sexually receptive.
    e. is sexually fatigued.

Answer: D
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

29. In some studies, subjects are not randomly assigned to research conditions; rather, subjects are selected because they are already living under appropriate conditions (e.g., alcohol consumers versus alcohol nonconsumers). Such studies are classified as

    a. quasiexperiments.
    b. case studies.
    c. true experiments.
    d. nonrandomized controls.
    e. unethical.

Answer: A
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

30. A major shortcoming of case studies is that

    a. they are always conducted using people with some kind of pathology.
    b. they cannot be applied to laboratory animals.
    c. they are too general.
    d. the extent to which the results can be generalized is unclear.
    e. the conditions of study are artificially constructed.

Answer: D
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

31. Research that seeks to discover how empirical results can best be applied to the solution of practical human problems is called

    a. applied.
    b. pure.
    c. translational.
    d. confounded.
    *e.* quasiexperimental.

Answer: C
Difficulty Level: Moderate
Topic: Pure and Applied Research
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

32. Research that is intended to bring about a direct benefit to humankind is

    a. biopsychological research.
    b. pure research.
    c. case-study research.
    d. applied research.
    e. correlational research.

Answer: D
Difficulty Level: Easy
Topic: Pure and Applied Research
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Apply What You Know
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

33. The corpus callosum is a

    a. large medical dictionary.
    b. source of hypothalamic hormones.
    c. membership directory of the Society for Neuroscience.
    d. part of the neocortex.
    e. neural pathway that connects the left and right hemispheres.

Answer: E
Difficulty Level: Difficult
Topic: Pure and Applied Research
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

34. David Hubel, Roger Sperry, Julius Axelrod, Egas Moniz, Edvard Moser, and Eric Kandel share in common the fact that they are all

    a. chemists.
    b. neuroanatomists.
    c. neuropathologists.
    d. psychologists.
    e. Nobel Prize winners.

Answer: E
Difficulty Level: Difficult
Topic: Pure and Applied Research
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

35. All of the following are major divisions of biopsychology with the exception of

a. physiological psychology.
b. clinical psychology.
c. neuropsychology.
d. psychophysiology.
e. psychopharmacology.

Answer: B
Difficulty Level: Moderate
Topic: What Are the Divisions of Biopsychology?
Learning Objective: 1.7 Describe the division of biopsychology known as physiological psychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

36. The division of biopsychology that studies the neural mechanisms of behavior through the direct manipulation of the brains of laboratory animals in controlled experiments is

a. physiological psychology.
b. psychophysiology.
c. neuropsychology.
d. cognitive neuroscience.
e. both A and B

Answer: A
Difficulty Level: Difficult
Topic: Physiological Psychology
Learning Objective: 1.7 Describe the division of biopsychology known as physiological psychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

37. The research conducted by a biopsychologist working for a drug manufacturing company would likely be

    a. primarily pure research.
    b. classified as neuropsychology.
    c. psychopharmacological in nature.
    d. completely pure research.
    e. both C and D

Answer: C
Difficulty Level: Difficult
Topic: Psychopharmacology
Learning Objective: 1.8 Describe the division of biopsychology known as psychopharmacology.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

38. Which subdivision of biopsychology is most likely to be identified with an experiment in which the effects of the drug fluoxetine on the ability of mice to learn a maze is studied?

    a. experimental psychology
    b. psychopharmacology
    c. psychophysiology
    d. physiological psychology
    e. neuropsychology

Answer: B
Difficulty Level: Moderate
Topic: Psychopharmacology
Learning Objective: 1.8 Describe the division of biopsychology known as psychopharmacology.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

39. Which subdiscipline of biopsychology is most likely to be identified with the assessment of the memory deficits of patients who have damage to the frontal portions of the neocortex?

a. neuropsychology
b. physiological psychology
c. psychopharmacology
d. experimental psychology
e. psychophysiology

Answer: A
Difficulty Level: Moderate
Topic: Neuropsychology
Learning Objective: 1.9 Describe the division of biopsychology known as neuropsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

40. The cerebral cortex is the outermost layer of the

a. corpus callosum.
b. cerebellum.
c. great cerebral commissure.
d. cerebral hemispheres.
e. midbrain.

Answer: D
Difficulty Level: Moderate
Topic: Neuropsychology
Learning Objective: 1.9 Describe the division of biopsychology known as neuropsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

41. Which subdiscipline of biopsychology is identified with the measurement of scalp electroencephalogram (EEG) activity and autonomic nervous system (ANS) activity in humans?

a. psychophysiology
b. experimental psychology
c. physiological psychology
d. neuropsychology
e. psychopharmacology

Answer: A
Difficulty Level: Moderate
Topic: Psychophysiology
Learning Objective: 1.10 Describe the division of biopsychology known as psychophysiology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

42. In psychophysiology, the usual measure of brain activity is the

a. EKG.
b. ANS.
c. EEG.
d. AOK.
e. EOG.

Answer: E
Difficulty Level: Moderate
Topic: Psychophysiology
Learning Objective: 1.10 Describe the division of biopsychology known as psychophysiology.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

43. The specific division of the nervous system that regulates the body's inner environment is called the

a. sympathetic nervous system.
b. peripheral nervous system.
c. autonomic nervous system.
d. parasympathetic nervous system.
e. central nervous system.

Answer: C
Difficulty Level: Moderate
Topic: Psychophysiology
Learning Objective: 1.10 Describe the division of biopsychology known as psychophysiology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

44. A term that refers to higher intellectual processes such as thought, memory, and attention is

a. "cognition."
b. "motivation."
c. "emotions."
d. "prosody."
e. "consciousness."

Answer: A
Difficulty Level: Easy
Topic: Cognitive Neuroscience
Learning Objective: 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

45. Cognitive neuroscience is

a. based exclusively on case studies.
b. the applied form of psychopharmacology.
c. the primary field of study among biopsychologists.
d. the applied form of comparative psychology.
e. the youngest division of biopsychology.

Answer: E
Difficulty Level: Difficult
Topic: Cognitive Neuroscience
Learning Objective: 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

46. The major method used in cognitive neuroscience is

a. functional brain imaging.
b. structural brain imaging.
c. autonomic nervous system recording.
d. the ethological approach.
e. the intelligence test.

Answer: A
Difficulty Level: Moderate
Topic: Cognitive Neuroscience
Learning Objective: 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

47. The division of biopsychology that deals generally with the biology of behavior, rather than specifically with the neural mechanisms of behavior, is

a. physiological psychology.
b. psychobiology.
c. neural biology.
d. comparative psychology.
e. evolutionary psychology.

Answer: D
Difficulty Level: Difficult
Topic: Psychophysiology
Learning Objective: 1.12 Describe the division of biopsychology known as comparative psychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

48. Which research question would most likely be addressed by a comparative psychologist?

a. Which pharmacological treatment for Alzheimer's disease is most effective?
b. Where is the seat of human consciousness?
c. How does damage to the hippocampus affect human memory ability?
d. How can cancer drugs be administered less painfully to humans?
e. How do mice, chicks, and weasels perform in a maze-learning task?

Answer: E
Difficulty Level: Moderate
Topic: Comparative Psychology
Learning Objective: 1.12 Describe the division of biopsychology known as comparative psychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

49. Some comparative psychologists study behavior in the laboratory, whereas others conduct

    a. ethological research.
    b. case studies.
    c. experiments.
    d. applied research.
    e. converging operations.

Answer: A
Difficulty Level: Difficult
Topic: Comparative Psychology
Learning Objective: 1.12 Describe the division of biopsychology known as comparative psychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

50. Scientific progress is most likely when different approaches are focused on a single problem, particularly when the strengths of one approach compensate for the weaknesses of other approaches. This research strategy is called

    a. converging operations.
    b. comparative analysis.
    c. critical thinking.
    d. scientific inference.
    e. functional imaging.

Answer: A
Difficulty Level: Moderate
Topic: Converging Operations: How Do Biopsychologists Work Together?
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

51. The primary symptom of Korsakoff's syndrome is

    a. severe memory loss.
    b. epilepsy.
    c. insomnia.
    d. dehydration.
    e. obesity.

Answer: A
Difficulty Level: Easy
Topic: Converging Operations: How Do Biopsychologists Work Together?
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

52. Experimental evidence indicates that the brain damage commonly observed in people who consume a lot of alcohol is caused by

    a. the direct toxic effects of alcohol on the brain.
    b. a thiamine deficiency.
    c. elevated levels of vitamin $B_{12}$ in the bloodstream.
    d. kidney failure.
    e. overproduction of insulin.

*Answer: B*
Difficulty Level: Difficult
Topic: Converging Operations: How Do Biopsychologists Work Together?
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

53. Scientists in many fields study unobservable phenomena

a. with electron microscopes.
b. with microelectrodes.
c. by using scientific inference.
d. through direct observation.
e. by direct measurement.

Answer: C
Difficulty Level: Easy
Topic: Scientific Inference: How Do Biopsychologists Study the Unobservable Workings of the Brain?
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movements and the visual perception of motion.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

54. Scientists study the processes of evolution, neural inhibition, gravity, evaporation, and thinking by relying on

a. neuroscience.
b. scientific inference.
c. generalization.
d. operational sets.
e. direct observation.

Answer: B
Difficulty Level: Difficult
Topic: Scientific Inference: How Do Biopsychologists Study the Unobservable Workings of the Brain?
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movements and the visual perception of motion.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

55. If an object is moving to the left at a constant speed and you are rotating your eyes to the left at twice the speed, you will see the object moving

    a. to the right at the same speed.
    b. to the right at twice the speed.
    c. to the right at half the speed.
    d. to the left.
    e. back and forth.

Answer: D
Difficulty Level: Difficult
Topic: Scientific Inference: How Do Biopsychologists Study the Unobservable Workings of the Brain?
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movements and the visual perception of motion.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

56. The visual system bases its perception of motion on a comparison between movement of the image on the

    a. retina and the neural signals sent from the brain to the eye muscles.
    b. cornea and its movement on the retina.
    c. retina and contractions of the eye muscles.
    d. retina and movement of the eyes.
    e. two retinas.

Answer: A
Difficulty Level: Difficult
Topic: Scientific Inference: How Do Biopsychologists Study the Unobservable Workings of the Brain?
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movements and the visual perception of motion.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

57. During an experiment investigating the visual perception of motion, a volunteer with temporarily paralyzed eye muscles, who viewed a stationary target, saw the target move

a. in the direction opposite to the direction in which his eyes drifted.
b. in the direction opposite to the direction in which he attempted to move his eyes.
c. in the same direction as he attempted to move his eyes.
d. rapidly back and forth.
e. rapidly up and down.

Answer: C
Difficulty Level: Difficult
Topic: Scientific Inference: How Do Biopsychologists Study the Unobservable Workings of the Brain?
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movements and the visual perception of motion.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

58. The principle that precedence should be given to the simplest interpretation of a behavior when more than one interpretation is possible is called

a. Wilson's credo.
b. Delgado's canon.
c. the principle of convergence.
d. Debner's principle.
e. Morgan's canon.

Answer: E
Difficulty Level: Moderate
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

59. Morgan's canon is

a. a weapon used during the Vietnam war.
b. a surgical instrument constructed by Egas Moniz.
c. a method used to tame bulls.
d. a brain operation that involves removing a cerebral hemisphere.
e. an operating principle.

Answer: E
Difficulty Level: Moderate
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

60. The first prefrontal lobotomy performed on a human was

a. performed by Almeida Lima.
b. performed on Clifford Morgan.
c. performed in Denmark.
d. performed by Clifford Morgan.
e. performed on Almeida Lima.

Answer: A
Difficulty Level: Difficult
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

61. The large areas, left and right, at the very front of the brain are the

    a. prefrontal lobes.
    b. occipital lobes.
    c. corpus callosum.
    d. caudate.
    e. hypothalamus.

Answer: A
Difficulty Level: Easy
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

62. Which prefrontal lobotomy procedure involved six insertions of a leucotome into the brain to remove cores of tissue?

    a. the procedure later used by Walter Freeman in Canada
    b. the procedure introduced by Egas Moniz and Almeida Lima
    c. the improved prefrontal lobotomy procedure developed in Sweden
    d. the transorbital prefrontal lobotomy
    e. the Lifeson technique developed during the 1970s

Answer: B
Difficulty Level: Moderate
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

63. In 1949, Egas Moniz was awarded the Nobel Prize for

    a. demonstrating that the two cerebral hemispheres have different functions.
    b. writing *The Organization of Behavior*.
    c. comparative research on the visual system.
    d. studies of hormone production in the brain.
    e. the development of the prefrontal lobotomy.

Answer: E
Difficulty Level: Moderate
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

64. Which prefrontal lobotomy procedure involved an instrument being worked into the brain through the eyesocket to remove tissue?

    a. Almeida Lima's original prefrontal lobotomy procedure
    b. Egas Moniz's original prefrontal lobotomy procedure
    c. a transorbital prefrontal lobotomy
    d. Ingo Larsen's original prefrontal lobotomy procedure
    e. the Warren-LaForge cingulotomy technique

Answer: C
Difficulty Level: Easy
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

65. In the United States alone, more than _____ psychiatric patients have received a prefrontal lobotomy.

a. 40
b. 400
c. 4,000
d. 40,000
e. 400,000

Answer: D
Difficulty Level: Easy
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

**FILL IN THE BLANK QUESTIONS**

1. The four major themes addressed in this textbook are neuroplasticity, clinical implications, the evolutionary perspective, and _____.

Answer: thinking creatively
Difficulty Level: Moderate
Topic: Four Major Themes in this Text
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2. The study of nervous system disorders is called _____.

Answer: neuropathology
Difficulty Level: Difficult
Topic: How Is Biopsychology Related to the Other Disciplines of Neuroscience?
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

3. A _____ -subjects design is an experimental design that involves testing a different group of subjects under each condition of the experiment.

Answer: between
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

4. The _____ effect refers to the fact that a copulating male that becomes incapable of continuing to copulate with one sex partner can often recommence copulating with a new sex partner.

Answer: Coolidge
Difficulty Level: Moderate
Topic: Experiments and Nonexperiments
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

5. _____ research is intended to bring about a direct benefit to humankind.

Answer: Applied
Difficulty Level: Easy
Topic: Pure and Applied Research
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Apply What You Know
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

6. The largest neural pathway that connects the left and right halves of the brain is called the _____.

Answer: corpus callosum
Difficulty Level: Difficult
Topic: Pure and Applied Research
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

7. Biopsychologists who use drugs to manipulate the brains and behavior of their research subjects are called _____.

Answer: psychopharmacologists
Difficulty Level: Moderate
Topic: Psychopharmacology
Learning Objective: 1.8 Describe the division of biopsychology known as psychopharmacology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

8. _____ are biopsychologists who focus on the study of human patients with brain damage.

Answer: Neuropsychologists
Difficulty Level: Moderate
Topic: Neuropsychology
Learning Objective: 1.9 Describe the division of biopsychology known as neuropsychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

9. The EEG, or _____, is commonly recorded from the scalp as a measure of electrical brain activity.

Answer: electroencephalogram
Difficulty Level: Difficult
Topic: Psychophysiology
Learning Objective: 1.10 Describe the division of biopsychology known as psychophysiology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

10. Many psychophysiological measures are indicators of the activity of the _____ nervous system, which regulates the body's inner environment.

Answer: autonomic
Difficulty Level: Difficult
Topic: Psychophysiology
Learning Objective: 1.10 Describe the division of biopsychology known as psychophysiology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

11. The division of biopsychology that makes the greatest use of functional brain imaging is _____.

Answer: cognitive neuroscience
Difficulty Level: Moderate
Topic: Cognitive Neuroscience
Learning Objective: 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

12. There is more to biopsychology than the study of the neural mechanisms of behavior. The division of biopsychology that best illustrates this point is _____.

Answer: comparative psychology
Difficulty Level: Difficult
Topic: Comparative Psychology
Learning Objective: 1.12 Describe the division of biopsychology known as comparative psychology.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

13. Korsakoff's syndrome is most prevalent in chronic _____.

Answer: alcoholics
Difficulty Level: Moderate
Topic: Converging Operations: How Do Biopsychologists Work Together?
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

14. Korsakoff's syndrome is typically associated with a _____ deficiency.

Answer: thiamine
Difficulty Level: Moderate
Topic: Converging Operations: How Do Biopsychologists Work Together?
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

15. The general method that scientists use to study unobservable objects and events is called _____.

Answer: scientific inference
Difficulty Level: Moderate
Topic: Scientific Inference: How Do Biopsychologists Study the Unobservable Workings of the Brain?
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movements and the visual perception of motion.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

16. Delgado's claim of a caudate taming center should have been dismissed immediately because it violated _____.

Answer: Morgan's canon
Difficulty Level: Difficult
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

17. _____ won a Nobel Prize for the development of the prefrontal lobotomy as a treatment for mental illness.

Answer: Egas Moniz
Difficulty Level: Difficult
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

18. Transorbital lobotomies were conducted through the orbits, or _____.

Answer: eye sockets
Difficulty Level: Moderate
Topic: Evaluating Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

## ESSAY AND OTHER MULTIPLE-MARK QUESTIONS

1. Discuss biopsychology's special role in neuroscientific research, and describe four other disciplines of neuroscience.

Answer:
20% for explaining that the study of behavior is biopsychology's special role
80% for naming and defining four other disciplines of neuroscience
Difficulty Level: Easy
Topic: What Is Biopsychology?
Learning Objective: 1.3 List the six fields of neuroscience that are particulary relevant to biopsychological inquiry.
Skill Level: Remember the Facts
APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2. Discuss the advantages and disadvantages of humans as subjects in biopsychological research.

Answer:
50% for the advantages: they have human brains; they are often less expensive to procure than animal subjects; they can communicate verbally
50% for the disadvantages: their brains and behavior are particularly complex; there are strict ethical constraints; research that focuses totally on humans lacks a comparative perspective
Difficulty Level: Moderate
Topic: What Types of Research Characterize the Biopsychological Approach?
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research. Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

3. Compare experimental and quasiexperimental research.

Answer:
50% for defining and discussing both experiments and quasiexperiments
50% for contrasting experiments and quasiexperiments, emphasizing the fact that only experiments permit the possibility of identifying causation
Difficulty Level: Difficult
Topic: What Types of Research Characterize the Biopsychological Approach?
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects. Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

4. Compare physiological psychology and neuropsychology, and discuss how these two approaches to biopsychological research complement one another.

Answer:
50% for describing physiological psychology and neuropsychology
50% for explaining how these two fields compensate for each other's weaknesses; students should discuss the concept of converging operations, and their answer could be strengthened by providing examples (e.g., research on memory or on Korsakoff's syndrome)
Difficulty Level: Difficult
Topic: What Are the Divisions of Biopsychology?
Learning Objective: 1.7 Describe the division of biopsychology known as physiological psychology.Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

5. If you were to become a biopsychologist, in which division of biopsychology would you like to specialize and why?

Answer:
50% for knowledge of the division that a respondent selects
50% for effectively arguing that the choice is best for that respondent
Difficulty Level: Moderate
Topic: What Are the Divisions of Biopsychology?
Learning Objective: 1.7 Describe the division of biopsychology known as physiological psychology. Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

6. Discuss the concept of converging operations, explain its critical role in biopsychological research, and provide a specific example of its use.

Answer:
40% for defining and discussing converging operations and how they work in biopsychology
60% for providing a specific example of converging operations in biopsychology (e.g., research on Korsakoff's syndrome)
Difficulty Level: Difficult
Topic: How Do Biopsychologists Conduct Their Work?
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

7. It is important to think critically about biopsychological claims. Discuss and provide an example.

Answer:
40% for describing the difficulties of interpreting biopsychological claims and discussing the importance of critical evaluation
60% for providing an example of misinterpretation in biopsychological research (e.g., prefrontal lobotomy or the caudate taming center) to argue for the importance of critical evaluation
Difficulty Level: Easy
Topic: Critical Thinking about Biopsychological Claims
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims. Skill Level: Understand the Concepts
APA Learning Objective: 1.2 Develop a working knowledge of psychology's content domains.

**REVEL QUIZZES**

The following questions appear at the end of each module and at the end of the chapter in Revel for *Biopsychology*, 11th Edition.

## Quiz: What Is Biopsychology?

**EOM Q1.1.1**

**Question:** Donald Hebb developed the first comprehensive theory of how
a. complex psychological phenomena might be produced by brain activity.
b. sexual activity might be produced by the sight of an arousing stimulus.
c. emotions are produced by feedback from the facial muscles.
d. to scientifically study behavior.

Answer: A
Consider This: Hebb's theory helped dismiss the notion that psychological functioning was too complex to be rooted in brain physiology. LO 1.2 Discuss the origins of the field of biopsychology.
Learning Objective: 1.2 Discuss the origins of the field of biopsychology.
Skill Level: Understand the Concepts
Difficulty Level: Easy

**EOM Q1.1.2**

**Question:** Hebb is BEST described as using a(n) _____ approach in developing the first comprehensive theory of how psychological phenomena may be produced by brain activity.

a. quasiexperimental
b. comparative
c. clinical
d. eclectic

Answer: D
Consider This: Hebb used laboratory studies of humans and animals, logical insights, and case studies. LO 1.2 Discuss the origins of the field of biopsychology.
Learning Objective: 1.2 Discuss the origins of the field of biopsychology.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOM Q1.1.3**

**Question:** Psychology is the scientific study of

a. biology.
b. behavior.
c. neuroplasticity.
d. evolutionary biology.

Answer: B
Consider This: Psychology can be used to arrive at inferences about the cognitions of an animal. LO 1.1 Define and discuss what is meant by *biopsychology*.
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.1.4**

**Question:** The field that focuses on the study of the structure of the nervous system is

a. neuroanatomy.
b. neurophysiology.
c. neurochemistry.
d. neuropathology.

Answer: A
Consider This: This subfield of neuroscience, focuses on the structure of the nervous system. LO 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.1.5**

**Question:** With respect to the major fields of neuroscience, the study of the chemical bases of neural activity is to the study of nervous system dysfunction as _____ is to _____.

a. neurophysiology; neuroanatomy
b. neurochemistry; neuroanatomy
c. neurochemistry; neuropathology
d. neuropharmacology; neuropathology

Answer: C
Consider This: Neither of the correct fields focuses on the structure of the nervous system. LO 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Analyze It
Difficulty Level: Moderate

## Quiz: What Types of Research Characterize the Biopsychological Approach?

**EOM Q1.2.1**

**Question:** The study of biological processes by examining different species is known as the _____ approach.

a. Gorzalka
b. comparative
c. translational
d. between-subjects

Answer: B
Consider This: Recall the three advantages of studying nonhuman species in understanding human behavior. LO 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Understand the Concepts
Difficulty Level: Easy

**EOM Q1.2.2**

**Question:** An experiment that tests a different group of participants in each of the experimental conditions is said to use a(n)

a. within-subjects design.
b. experimental design.
c. between-subjects design.
d. independent variable approach.

Answer: C
Consider This: The difference between the experimental conditions is called the independent variable. LO 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOM Q1.2.3**

**Question:** Lester and Gorzalka developed a clever way to control for the confounded variable of

a. sexual fatigue of males.
b. sexual vigor of males.
c. sexual fatigue of females.
d. sexual vigor of females.

Answer: A
Consider This: The experiment in question was an investigation of the Coolidge effect. LO 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOM Q1.2.4**

**Question:** Quasiexperimental studies examine groups of participants who have been

a. exposed to only one level of the independent variable.
b. randomly assigned to particular conditions.
c. exposed to the conditions of interest in the real world.
d. consuming a lot of alcohol.

Answer: C
Consider This: Quasiexperimental studies are not true experiments because potential confounded variables have not been controlled for. LO 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies emphasizing their utility in the study of causal effects.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOM Q1.2.5**

**Question:** Translational research

a. aims to translate the findings of pure research into useful applications.
b. aims to translate the findings published in one language into another language.
c. studies the process of translation between languages.
d. is a form of pure research.

Answer: A
Consider This: Pure research often becomes the topic of this type of research. LO 1.6 Compare pure and applied research.
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Understand the Concepts
Difficulty Level: Easy

## Quiz: What Are the Divisions of Biopsychology?

**EOM Q1.3.1**

**Question:** Which division of biopsychology relies on functional brain imaging as its major research method?

a. cognitive neuroscience
b. neuropsychology
c. psychophysiology
d. behavioral neuroscience

Answer: A
Consider This: These researchers rely heavily on the use of brain imaging technologies. LO 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Learning Objective: 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.3.2**

**Question:** A biopsychologist who studies the memory deficits of human patients with brain dysfunction would MOST likely identify with the division of biopsychology called

a. cognitive neuroscience.
b. neuropsychology.
c. psychophysiology.
d. behavioral neuroscience.

Answer: B
Consider This: This sort of biopsychologist's research is almost always applied in nature. LO 1.9 Describe the division of biopsychology known as neuropsychology.
Learning Objective: 1.9 Describe the division of biopsychology known as neuropsychology.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.3.3**

**Question:** Biopsychologists who study the physiological correlates of psychological processes by recording physiological signals from the surface of the human body are often called

a. cognitive neuroscientists.
b. neuropsychologists.
c. psychophysiologists.
d. behavioral neuroscientists.

Answer: C
Consider This: This sort of biopsychologist is quite likely to use an electroencephalogram (EEG) or a measure of the electrical conductance of the skin. LO 1.10 Describe the division of biopsychology known as psychophysiology.
Learning Objective: 1.10 Describe the division of biopsychology known as psychophysiology.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.3.4**

**Question:** The research of _____ typically involves the direct manipulation or recording of the neural activity of laboratory animals by invasive surgical, electrical, or chemical means.

a. cognitive neuroscientists
b. neuropsychologists
c. psychophysiologists
d. physiological psychologists

Answer: D
Consider This: The research in this division of biopsychology is often pure in nature and usually contributes to the development of theories. LO 1.7 Describe the division of biopsychology known as physiological psychology.
Learning Objective: 1.7 Describe the division of biopsychology known as physiological psychology.
Skill Level: Remember the Facts
Difficulty Level: Moderate

**EOM Q1.3.5**

**Question:** The division of biopsychology that focuses on the effects of drugs on behavior is often called _____.

a. cognitive neuroscience
b. neuropsychology
c. psychophysiology
d. psychopharmacology

Answer: D
Consider This: Many of the earliest researchers in this division were physiological psychologists who moved into drug research. LO 1.8 Describe the division of biopsychology known as psychopharmacology.
Learning Objective: 1.8 Describe the division of biopsychology known as psychopharmacology.
Skill Level: Remember the Facts
Difficulty Level: Easy

## Quiz: How Do Biopsychologists Conduct Their Work?

**EOM Q1.4.1**

**Question:** Korsakoff's syndrome is:

a. most commonly observed in males of Russian descent.
b. often the result of overconsuming food.
c. never associated with chronic alcoholism.
d. caused in large part by thiamine deficiency.

Answer: D
Consider This: Converging operations was important in the study of Korsakoff's syndrome. LO 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOM Q1.4.2**

**Question:** Using different research approaches in such a way that the weaknesses of one approach are compensated for by the strengths of another is known as

a. neuroscience.
b. the scientific method.
c. the biopsychological approach.
d. converging operations.

Answer: D
Consider This: Some questions can only be addressed with the use of multiple approaches. LO 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Understand the Concepts
Difficulty Level: Easy

**EOM Q1.4.3**

**Question:** The empirical method that biopsychologists and other scientists use to study the unobservable is

a. between-subject designs.
b. converging operations.
c. lordosis.
d. scientific inference.

Answer: D
Consider This: Using this method, biopsychologists can infer the nature of the neural processes that regulate behavior. LO 1.14 Explain scientific inference with reference to research on eye movement and the visual perception of motion.
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movement and the visual perception of motion.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.4.4**

**Question:** Under normal conditions, the brain mechanisms responsible for the perception of motion don't consider eye movements per se. Instead, they consider

a. only those eye movements that are actively produced by neural signals from the brain to the finger muscles.
b. only those eye movements that are actively produced by neural signals from the brain to the eye muscles.
c. only unilateral eye movements.
d. only bilateral eye movements.

Answer: B
Consider This: Recall the passive eye movement activity that is involved in using your fingertip.
LO 1.14 Explain scientific inference with reference to research on eye movement and the visual perception of motion.
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movement and the visual perception of motion.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOM Q1.4.5**

**Question:** If you were to inject curare into your eye muscles and then try to move your eye, you would see the stationary visual world

a. move in the direction opposite to your attempted eye movement.
b. move in the same direction as your attempted eye movement.
c. move from side to side.
d. disappear.

Answer: B
Consider This: In the study of Hammond, Merton, and Sutton (1956), Merton's brain assumed the movement had been carried out. LO 1.14 Explain scientific inference with reference to research on eye movement and the visual perception of motion.
Learning Objective: 1.14 Explain scientific inference with reference to research on eye movement and the visual perception of motion.
Skill Level: Apply What You Know
Difficulty Level: Moderate

## Quiz: Thinking Critically about Biopsychological Claims

**EOM Q1.5.1**

**Question:** With respect to its relationship to creative thinking, critical thinking is
a. largely unrelated to creative thinking.
b. essentially the opposite of creative thinking.
c. virtually synonymous with creative thinking.
d. a necessary foundation for creative thinking.

Answer: D
Consider This: Creativity is often sparked by examining weaknesses in existing beliefs. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Analyze It
Difficulty Level: Difficult

**EOM Q1.5.2**

**Question:** Emmie is giving a class presentation on the contributions of Nobel Prize winners to psychology's history. She discusses not only the work of Pavlov on classical conditioning but also the work of _____, who developed the prefrontal lobotomy.
a. Lima
b. Valenstein
c. Moniz
d. Freeman

Answer: C
Consider This: The studies carried out by this individual, with human patients, were based on a report of a chimpanzee's behavioral change following brain surgery. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Apply What You Know
Difficulty Level: Moderate

**EOM Q1.5.3**

**Question:** Who was responsible for popularizing the use of the transorbital lobotomy?
a. Lima
b. Valenstein
c. Moniz
d. Freeman

Answer: D
Consider This: This method was popular in the United States and involved the use of an icepick-like device. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.5.4**

**Question:** Who reported discovering a caudate taming center?

a. Lima
b. Delgado
c. Moniz
d. Freeman

Answer: B
Consider This: Recall the experiment with the bull and the radio transmitter. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOM Q1.5.5**

**Question:** Major weaknesses in the scientific case for the prefrontal lobotomy included the fact that:

a. it was based on experimental research.
b. its early practitioners included a case study in their research.
c. it could be performed only on informed, consenting adults.
d. the effects of the prefrontal lobotomies were not carefully evaluated.

Answer: D
Consider This: The initial development of the prefrontal lobotomy involved a lack of appreciation for the diversity of brain and behavior across species. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

## Quiz: Biopsychology as a Neuroscience

### EOC Q1.1

**Question:** Biopsychology developed into a major neuroscientific discipline in the ____ century.

a. 18th
b. 19th
c. 20th
d. 21st

Answer: C
Consider This: Recall the research of D.O. Hebb. LO 1.2 Discuss the origins of the field of biopsychology.
Learning Objective: 1.2 Discuss the origins of the field of biopsychology.
Skill Level: Remember the Facts
Difficulty Level: Easy

### EOC Q1.2

**Question:** Biopsychology is sometimes called:

a. behavioral psychology.
b. psychobiology.
c. behavioral neuroplasticity.
d. the evolutionary perspective.

Answer: B
Consider This: This alternate label implies a psychological approach to the study of biology. LO 1.1 Define and discuss what is meant by *biopsychology.*
Learning Objective: 1.1 Define and discuss what is meant by biopsychology.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOC Q1.3**

**Question:** The field that focuses on the study of interactions between the nervous system and the endocrine system is:

a. neurophysiology.
b. neuroendocrinology.
c. neurochemistry.
d. neuropharmacology.

Answer: B
Consider This: Biopsychologists draw upon the knowledge of other neuroscientific disciplines.
LO 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOC Q1.4**

**Question:** Janae is a graduate student researching the effects of methamphetamine on brain activity. Janae's research is BEST described as an example of the field of:

a. neurophysiology.
b. neuroendocrinology.
c. neurochemistry.
d. neuropharmacology.

Answer: D
Consider This: This field almost always uses drugs in its studies. LO 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Apply What You Know
Difficulty Level: Easy

**EOC Q1.5**

**Question:** The field that focuses on the study of the functions and activities of the nervous system is:

a. neurophysiology.
b. neuroendocrinology.
c. neurochemistry.
d. neuropharmacology.

Answer: A
Consider This: This field is more concerned with activity in the nervous system as opposed to its structure and components. LO 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Learning Objective: 1.3 List the six fields of neuroscience that are particularly relevant to biopsychological inquiry.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOC Q1.6**

**Question:** The differences between the brains of humans and those of related species are more _____ than _____.

a. qualitative; quantitative
b. quantitative; qualitative
c. superficial; real
d. pronounced; once thought

Answer: B
Consider This: Human brains differ from the brains of other mammals primarily in their overall size and the extent of their cortical development. LO 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Learning Objective: 1.4 Compare the advantages and disadvantages of humans and nonhumans as subjects in biopsychological research.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOC Q1.7**

**Question:** The experimenter assigns the participants to conditions, administers the treatments, and measures the outcome in such a way that there is only one relevant difference between the conditions being compared. This difference between the conditions is called the:

a. confounded variable.
b. variable of interest.
c. independent variable.
d. dependent variable.

Answer: C
Consider This: This variable is the one that is manipulated by the experimenter. LO 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Learning Objective: 1.5 Compare experiments, quasiexperimental studies, and case studies, emphasizing their utility in the study of causal effects.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOC Q1.8**

**Question:** Research that aims to turn the findings of pure research into useful applications for humankind is called _____ research.

a. pure
b. translational
c. confounded
d. practical

Answer: B
Consider This: An example of this type of research would be a clinical trial that tests the effectiveness of a drug, previously found to decrease depression in an animal model of depression, in depressed humans. LO 1.6 Compare pure and applied research.
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOC Q1.9**

**Question:** There is a tradition of _____ research in physiological psychology; the emphasis is usually on research that contributes to the development of theories of the neural control of behavior rather than on research of immediate practical benefit.

a. applied
b. translational
c. pure
d. practical

Answer: C
Consider This: The research in physiological psychology is usually done for the purposes of acquiring knowledge. LO 1.6 Compare pure and applied research.
Learning Objective: 1.6 Compare pure and applied research.
Skill Level: Understand the Concepts
Difficulty Level: Easy

**EOC Q1.10**

**Question:** The early reports that the prefrontal lobotomy was therapeutically effective were based on the impressions of the individuals who were the LEAST objective; that is, these early reports were based on the impressions of:

a. Lima and Freeman.
b. the patients.
c. the physicians who had prescribed the surgery.
d. the family members of the patients.

Answer: C
Consider This: Little effort was made to evaluate the effects of the treatment. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOC Q1.11**

**Question:** When there are several possible interpretations for a behavioral observation, the rule is to give precedence to the simplest one; this rule is called:

a. Occam’s sword.
b. Morgan’s canon.
c. Freeman’s icepick.
d. Hebb’s postulate.

Answer: B
Consider This: Recall Valenstein’s assessment of Delgado’s research. LO 1.15 Define critical thinking and evaluate biopsychological claims.
Learning Objective: 1.15 Define critical thinking and evaluate biopsychological claims.
Skill Level: Understand the Concepts
Difficulty Level: Moderate

**EOC Q1.12**

**Question:** _____ is a division of biopsychology that investigates the neural bases of human cognition; its major method is functional brain imaging.

a. Cognitive neuroscience
b. Neuropsychology
c. Psychophysiology
d. Psychopharmacology

Answer: A
Consider This: Research in this division of biopsychology involves humans and is usually noninvasive. LO 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Learning Objective: 1.11 Describe the division of biopsychology known as cognitive neuroscience.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOC Q1.13**

**Question:** _____ are biopsychologists who study the genetics, evolution, and adaptiveness of behavior, often by using the comparative approach.

a. Cognitive neuroscientists
b. Neuropsychologists
c. Psychophysiologists
d. Comparative psychologists

Answer: D
Consider This: This division does not deal specifically with the neural mechanisms of behavior. LO 1.12 Describe the division of biopsychology known as comparative psychology.
Learning Objective: 1.12 Describe the division of biopsychology known as comparative psychology.
Skill Level: Remember the Facts
Difficulty Level: Easy

**EOC Q1.14**

**Question:** Thiamine-deficient rats display:

a. cravings for alcohol.
b. extreme physical exertion.
c. excessive thirst.
d. memory deficits.

Answer: D
Consider This: Thiamine-deficient rats display many of the same problems as those seen in humans with Korsakoff's syndrome. LO 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Analyze It
Difficulty Level: Moderate

**EOC Q1.15**

**Question:** A strength of the neuropsychological approach is that _____, whereas a weakness of the neuropsychological approach is that _____.

a. it focuses on nonhuman subjects; it focuses on pharmacological manipulations
b. it focuses on nonhuman subjects; its focus on nonhuman subjects usually precludes experiments
c. it focuses on human patients with brain dysfunction; its focus on human patients as subjects usually precludes experiments
d. it deals directly with human patients; it focuses on drug treatments

Answer: C
Consider This: Recall the strengths and weaknesses of the neuropsychological approach in the context of the study of Korsakoff's syndrome. LO 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Learning Objective: 1.13 Explain how converging operations has contributed to the study of Korsakoff's syndrome.
Skill Level: Analyze It
Difficulty Level: Moderate