**Chapter 1**

Multiple Choice

1. Cognitive neuroscience seeks to understand the \_\_\_\_\_ underlying human thoughts and behaviors is called:

\*A) brain activity

B) unconscious desires

C) psychology

D) social pressures

 (Reference Page 5)

2. Which of the following can be assessed by measuring brain activity?

A) day-dreaming

B) speaking aloud

C) recalling memories

\*D) all of the above

 (Reference Page 6)

3. One way to determine the behavioral relevance of an individual neuron is to consider its:

A) relative size

B) geometric orientation

\*C) inputs and outputs

D) color

 (Reference Page 10)

4. One disadvantage of techniques that only show structural connectivity is that they:

A) are always invasive

\*B) do not show brain activity

C) cannot be used on humans

D) rely on chemicals injected into the blood stream

 (Reference Page 10)

5. Which of the following methods is a correlational method?

A) functional magnetic resonance imaging (fMRI)

B) positron emission tomography (PET)

C) magnetoencephalography (MEG)

\*D) all of the above

 (Reference Page 11)

6. Compared to magnetic resonance imaging, functional magnetic resonance imaging:

\*A) can show brain activity

B) cannot collect as many images

C) is not used by research scientists

D) can only show brain structure

 (Reference Page 11)

7. A researcher has a hypothesis that the volume of a particular region of the brain will be less in a clinical population. Which technique would be best to answer this question?

A) diffusion tensor imaging (DTI)

B) magnetoencephalography (MEG)

\*C) voxel-based morphometry

D) microelectrode recording

 (Reference Page 11)

8. Which of the following is not a problem with making an inference about brain function from a group of patients with lesions?

A) lesions can damage multiple areas at the same time

B) It can be difficult to accurately measure behavioral deficits.

\*C) brains are not similar enough to allow mapping lesion location from one patient to another

D) lesions are of often of different sizes across patients

 (Reference Page 14)

9. Which technique is the most invasive to the volunteer?

A) functional magnetic resonance imaging (fMRI)

\*B) microelectrode recording

C) diffusion tensor imaging (DTI)

D) magnetoencephalography (MEG)

 (Reference Page 11-14)

10. Which technique does not require direct access to the brain?

\*A) magnetoencephalography (MEG)

B) microelectrode recording

C) microdialysis probes

D) intraoperative labeling

 (Reference Page 11)

11. One drawback of stimulation methods is:

A) they cannot reliably cause behavior change

\*B) they are difficult to apply to precise locations

C) they can only be used to study movement

D) they have no clinical value

 (Reference Page 15)

12. Protecting offspring from rivals is part of which general survival function?

\*A) reproduction

B) agonism

C) homeostasis

D) feeding

 (Reference Page 16)

13. The Wason card task is an example demonstrating the \_\_\_\_\_ bias.

A) anchoring

B) availability

\*C) confirmation

D) belief

 (Reference Page 17)

14. The first step in the scientific method is to make a(n):

A) hypothesis

\*B) observation

C) prediction

D) proclamation

 (Reference Page 18)

15. When testing a theory, scientists must be especially careful to avoid:

A) qualitative measurements

B) peer review

C) correlational designs

\*D) belief bias

 (Reference Page 17-18)

16. Why is it often difficult to understand the behavioral relevance of a single neuron?

A) neurons are too small to measure individually

B) we cannot measure neuronal activity while behavior is occurring

\*C) each neuron is connected with thousands of other neurons

D) neurons that are below the brain’s surface cannot be reached by current instruments

 (Reference Page 20)

17. If the brain could not solve the \_\_\_\_\_ would be unable to associate a person’s voice with their face.

\*A) binding problem

B) associative problem

C) multisensory problem

D) belief bias

 (Reference Page 22)

18. A person unable to remember names long enough to write them down has trouble with:

\*A) short-term memory

B) long-term memory

C) non-declarative memory

D) declarative memory

 (Reference Page 23)

19. Despite differences in types of long-term memory, it is possible that the \_\_\_\_\_ are the same.

A) brain locations

B) behavioral functions

\*C) molecular mechanisms

D) memory contents

 (Reference Page 24)

20. One theory of sleep is that it serves solely to restore energy to the body. Evidence against this view includes:

\*A) extensive brain activity during sleep

B) people are often tired when they first wake up

C) all mammals require sleep

D) energy drinks are ineffective at keeping people awake

 (Reference Page 24)

21. Because speech relies on a network of activity in multiple brain regions, it can be disrupted by a lesion to:

A) every region in the network

B) at least half of the regions in the network

C) at least two regions in the network

\*D) any region in the network

 (Reference Page 25)

22. Technical and methodological advances in the study of emotion have led to the creation of the subfield:

A) emotion neuroscience

\*B) affective neuroscience

C) reactive neuroscience

D) social neuroscience

 (Reference Page 27)

23. The emphasis on which scientific criterion has led neuroscientists to focus on the neural activity associated with particular mental illnesses?

A) testable theories

B) replication

\*C) objective measurements

D) peer review

 (Reference Page 28)

24. The earliest forms of brain interface devices focused primarily on which task?

A) creating long-term memories

B) controlling robotic limbs

C) increasing memory recall

\*D) converting physical stimuli to neural activity

 (Reference Page 30)

25. Our confidence in eye-witness testimony is lowered because of evidence showing:

A) we reconstruct past events and include current information

B) juries overestimate the reliability of eye witness testimony

C) witnesses can focus on the wrong elements during a traumatic event

\*D)all of the above

 (Reference Page 31)

**Answer Key**

1. A

2. D

3. C

4. B

5. D

6. A

7. C

8. C

9. B

10. A

11. B

12. A

13. C

14. B

15. D

16. C

17. A

18. A

19. C

20. A

21. D

22. B

23. C

24. D

25. D