Psychology 2360 Assignment #1

Name: Key

Student #:

INSTRUCTIONS FOR THE MULTIPLE CHOICE ITEMS

There are 20 multiple choice items on this assignment; each correct answer is worth 1 point, for a total of 20 points. Items have been selected from the textbook and lectures. Read the multiple-choice questions carefully and select the BEST-lettered choice. Circle the letter corresponding to your choice AND fill in the correct spot on the bubble sheet with a pencil. If you change an answer, be sure to erase the incorrect answer well. If you do not know an answer - GUESS. If they did not use a pencil – give them a zero. Following instructions is necessary.

INSTRUCTIONS FOR THE SHORT ANSWER QUESTIONS

There are 11 short answer questions on this assignment; 5 are worth 1 point and 6 are worth 2 points, for a total of 20(note it is only out of 17 here – assignment is only out of 37) points. Items have been selected from the texbook and lectures. Read each question carefully. These are short answer questions – do not write TOO MUCH. If you write something 'wrong' you will lose points. Use only the space provided.

Bonus questions: Q: What time does this class start? A: 8:30 am (worth 2 points)…announced in class at 8:30 am.

Multiple Choice – one point each.

1. Phineas Gage's "animal behavior" was a result of damage to:
   A) the frontal lobes.
   B) the temporal lobes.
   C) the parietal lobes.
   D) the occipital lobes.

2. "Behavior consists of patterns in time" is a definition of behavior expounded by:
   A) D. O. Hebb.
   B) Edmond Jacobson.
   C) Irenäus Eibl-Eibesfeldt.
   D) Fred Linge.

3. The notion that the mind resides in the pineal body comes from:
   A) Charles Darwin.
   B) René Descartes.
   C) Aristotle.
   D) Socrates.

4. Crossbill birds have a beak that is designed to eat pinecones. If we trim the beak the behavior disappears. This example illustrates:
   A) fixed behavior.
   B) flexible behavior.
   C) learned behavior.
   D) adaptive behavior.

5. In the first movie shown in class, Michelle was blindfolded to test how fast her brain reorganized. How long was it before her brain showed reorganization?
   A) Within hours
   B) Within a few days
   C) Over weeks
   D) There is no change

6. Which of the following is *not* correlated with brain size?
   A) health
   B) cause of death
   C) age
   D) intelligence

7. Cerebrospinal fluid is found:
   A) between the arachnoid layer and the pia mater.
   B) between the dura mater and the arachnoid layer.
   C) between the dura mater and the pia mater.
   D) between all three layers.

8. Ischemic stroke is caused by:
   A) a clot.
   B) a broken blood vessel.
   C) meningitis.
   D) encephalitis.

9. The superior and inferior colliculi have what respective functions?
   A) auditory and visual
   B) visual and auditory
   C) tactile and visual
   D) visual and tactile

10. Regulation of breathing and the cardiovascular system is primarily controlled by:
    A) the pons.
    B) the reticular activating system.
    C) the medulla.
    D) the cerebellum.

11. Thalamus is to hypothalamus as:
    A) sensory input is to body maintenance.
    B) body maintenance is to sensory input.
    C) sexual behavior is to sleeping.
    D) feeding is to endocrine function.

12. The law of Bell and Magendie states:
    A) the dorsal spinal cord is motor and the ventral is sensory.
    B) the medial spinal cord is motor and the lateral is sensory.
    C) the dorsal spinal cord is sensory and the ventral is motor.
    D) the medial spinal cord is sensory and the lateral is motor.

13. Ependymal cells:
    A) are associated with the blood-brain barrier.
    B) are associated with the production of cerebral spinal fluid.
    C) are associated with the production of myelin.
    D) are associated with the healing of damaged tissue.

14. Astroglia are *not* associated with:
    A) expansion of blood vessels.
    B) the blood-brain barrier.
    C) formation of scar tissue.
    D) removal of dead tissue.

15. Myelin around axons:
    A) speeds up transmission of information.
    B) slows down transmission as if by an insulator.
    C) has no effect on speed of transmission but acts as a protective coat on the fragile axon.
    D) has no effect on speed of transmission but allows access of nutrition for the cell.

16. The person most credited with mapping the human cortex was:
    A) Gustave Fritsch.
    B) Eduard Hitzig.
    C) Roberts Bartholow.
    D) Wilder Penfield.

17. The fastest conduction occurs in:
    A) totally myelinated axons.
    B) partially myelinated axons.
    C) unmyelinated axons.
    D) both a and b.

18. Myaesthenia gravis is:
    A) an autoimmune disease.
    B) more common in men than women.
    C) caused by a viral infection.
    D) caused by a bacterial infection.

19. EEG can be used to:
    A) monitor sleep.
    B) estimate depth of anesthesia.
    C) detect epilepsy.
    D) all of the above.

20. An end plate is found:
    A) on a muscle membrane.
    B) on a dendrite membrane.
    C) on an axon.
    D) on touch receptors.

Short Answer

1. Briefly describe the process of natural selection, and give an example of how this process could lead to an increasingly complex nervous system (2 points).

Natural selection: the natural process by which adaptive characteristics are passed on (1pt)
Over time, adaptations that were more complex, allowed for a better response to the environment and that characteristic was passed on. This would continue and more complex nervous systems would result over time. (1pt)

2. In attempting to correlate brain size to intelligence, it has been found that the brain of an average female is 10% less than a brain of an average male. What does this finding suggest? (1 point).

That the female is approximately 10% smaller than the average male. 1pt.
Indicates NOTHING about intelligence!!!

3. What is dualism? (1 point).

That you can have a non-material mind and a material body that contribute to behaviour (1 pt).

4. What are the major functions of ependymal cells? (1 point).

To make cerebral spinal fluid.
1 pt.

5. In relation to the brain, what do the terms “symmetry” and “asymmetry” mean? Provide an example for each. (2 points).

Symmetry – the same on each side – eg. hemispheres, or cortical areas like Frontal
Assymmetry – different on each side – eg. like the language area on the left side.
(1/2 pt each)

6. Differentiate between sulci and gyri. (1 point).

Sulci – crevices between cortical areas
Gyri – bumps on the cortex
(1/2 pt each)

7. What is Huntington's chorea? Explain some symptoms. (2 points).

A disease that results from a problem associated the Chromosome 4. Too much Huntington protein aggregates in cells. (something like this 1 pt)
Chorea refers to the movement problems that occur with Huntingtons. Movement problems are the key symptom. Other problems over time include problems with cognition. (something like this 1 pt)

8. What is the function of myelin? How does it influence an action potential? (2 points)

Wraps around cells to insulate axons. Myelin does not completely cover axons, but leave small areas of axon unmelinated – nodes of ranvier. It speeds up the transmission of an action potential as the propogation jumps from node to node – salutatory conduction.
(1/2 a point for each).

9. Tell me why researchers must follow animal ethics rules? (1 point)

**this really should say something practical – eg. healthy animals give good data; grant funding will be cut off; it benefits everyone if all follow the rules

10. What are "warts"? Where are they found? What is their function? (2 points).

Warts are unusual clumps of cells (1/2 pt) on the language area (1/2 pt) in patients with dyslexia (see p. 29 focus on disorders). They seem to actually impair function of the language area. (1 pt)

11. What have you learned from the work of Bell and Magendie? (2 points).

Location determines function.
Dorsal – sensory nerves (1 pt)
Ventral – motor nerves (1 pt)

1. A
2. C
3. B
4. A
5. B
6. D
7. A
8. A
9. B
10. C
11. A
12. C
13. B
14. D
15. A
16. D
17. B
18. A
19. D
20. A