Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

1. Which of the following describes tissues?
   a. A group of organs with similar structure and function
   b. A group of cells in the same area of the body.
   c. Sheets of cells connected together by membranes.
   d. A group of associated cells with similar structure and function.

2. The ribs all emerge from the
   a. thoracic vertebrae
   b. cervical vertebrae
   c. lumbar vertebrae
   d. sacral vertebrae

3. The field of forensic anthropology would include analyzing skeletal remains to determine any of the following except
   a. cause of death
   b. ethnicity
   c. sex
   d. height

4. Which of the following bone features would be used to collect data for determining height?
   a. length of the nasal spine
   b. width of the pelvis
   c. ability to put femur under tibia
   d. length of the humerus

5. If a doctor told a patient that their appendicular bones are weak, which of the following bones might the doctor be referring to?
   a. temporal bone
   b. pelvic girdle
   c. coccyx
   d. thoracic ribs

6. The orbicularis oculi
   a. draws the eyebrows together
   b. allows blinking and squinting
   c. pulls the lower lip down and back
   d. closes, purses, and protrudes the lips

7. You are looking at a prepared slide with a microscope and see striations. What tissue are you looking at?
   a. epithelial
   b. connective
   c. nervous
   d. muscular

8. Biometrics is a field of science that
   a. Analyzes ethnic distributions around the country
   b. uses a biological metric system for measurements of corn
   c. uses physical and behavioral characteristics to determine identity
   d. is based on bumps and fissures on the brain

9. Which biometric technique would be the most reliable to use?
   a. voice recognition
   b. palm vein recognition
   c. DNA sequence
   d. eye scans

10. If the myelin sheaths of the neurons are destroyed, what best describes what would happen?
    a. the nervous impulse would go slower
    b. the cell body would not be able to function
    c. the nervous impulse could not move
    d. the nervous impulse would go faster

11. Which membrane protein is responsible for restoring the original concentration of ions during the action potential?
    a. Na channel
    b. Ca channel
    c. Na/K pump
    d. K channel

12. If a person suffers from hyponatremia (low levels of blood ions), how could this affect the functioning of neurons?
a. No action potential would be generated  c. Neurotransmitters would be released  
b. Hormones would be out of balance. d. Motor neurons not function, but interneurons still would.

___ 13. Which portion of the neuron contains neurotransmitter receptor proteins?
   a. Schwann cells  c. axons  
   b. dendrites  d. cell body

___ 14. You get very angry and want to fight a friend. What portion of your brain is controlling your emotions?
   a. hypothalamus  c. cerebellum  
   b. temporal lobe  d. frontal lobe

___ 15. If the cerebellum experiences a large blow from a blunt object, what would probably happen?
   a. uncoordinated body movements  c. blurred vision  
   b. loss of memory  d. a change in breathing rate

___ 16. A person you know has been in an automobile accident. After the accident, you notice a dramatic change in his ability to see. What area of the brain is most likely affected?
   a. frontal lobe  c. brain stem  
   b. hippocampus  d. occipital

___ 17. Which protein hormone is produced by the pancreas to promote the increase in the sugar content of the blood by breaking down glycogen in the liver?
   a. thyroxine  c. glucose  
   b. glucagon  d. insulin

___ 18. A gland secretes a substance into the small intestine through a duct. This gland is considered a (an)
   a. Exocrine gland  c. Both an endocrine and exocrine gland  
   b. A target gland  d. Endocrine gland

___ 19. Say a person eats a doughnut with extra sprinkles. What hormone would be released to promote cells to take in this extra energy for storage?
   a. estrogen  c. insulin  
   b. thyroid  d. glucagon

___ 20. What gland is responsible for blood sugar regulation?
   a. pituitary  c. stomach  
   b. hypothallumus  d. pancreas

___ 21. The endocrine system is able to maintain homeostasis by using
   a. transcription  c. feedback mechanisms  
   b. second messengers  d. target cells

___ 22. Seizures and abnormal brain electrical discharges are linked with what neurological condition?
   a. Huntington’s  c. Multiple sclerosis  
   b. ALS  d. Epilepsy

___ 23. If a person has an autoimmune disease that causes demylination of neurons, condition to they have?
   a. ALS  c. Epilepsy  
   b. Huntington’s  d. Multiple sclerosis

___ 24. ALS (Lou Gerig’s Disease) causes motor neurons to die. What symptoms would you expect to see in a person with this disorder?
   a. The loss of sight  c. An inability to sense touch  
   b. Muscles with little strength  d. A lack of decision making

True/False

Indicate whether the sentence or statement is true or false.
25. The axillary region is superior to the buccal region.
26. The sternal region is medial to the scapular region.
27. The lumbar vertebrae are superior to the cervical vertebrae.
28. The face, chest, & knee cap are anterior on the body.
29. The patellar region is on the posterior of the lower body.
30. The calcaneal region is proximal to the fibia.
31. The olecranal region is distal to the antecubital region.
32. The tarsal is proximal to the maxilla.
33. The parietal bone is superior to the thoracic cavity.
34. The temporal lobe is anterior to the occipital lobe.
35. The pupil is medial to the iris.
36. The thyroid is posterior to the trachea.
37. The adrenal glands are superior and proximal to the kidneys.
38. The liver is superior to the pancreas.
39. The hypothalamus is distal to the thyroid.
40. The endocrine system regulates hormones.
41. The liver stores glucose in the form of glycogen.
42. The pancreas is in the thoracic cavity.
43. The pituitary gland is superficial in the cerebrum.
44. The temporal lobe is responsible for interpreting visual messages from the eyes.

Matching

a. Occipital  l. Medial
b. Thoracic   m. Deep
c. Superior   n. Superficial
d. Lumbar    o. Umbilical
e. Lateral    p. Brachial
f. Inferior    q. Inguinal
g. Cervical  r. Olecranal
h. Proximal    s. Orbital
i. Anterior    t. Buccal
j. Distal     u. Oral
k. Posterior   v. Popliteal

45. Located inward (inside) from the surface.
46. Located at or near the surface.
47. Close to a structure
48. Away from a structure
49. Belly region
50. Arm region
51. Loin region, or posterior to the groin
52. Back of elbow
53. Toward the midline of the body
54. On or relating to the side
55. Eye region
56. Moth region
57. Neck region
58. Back side of the body
59. Lies below a reference point
60. Lies above a reference point
61. Base of skull
62. Fibia
63. Humerus
64. Mandible
65. Temporal
66. Lumbar
67. Scapular
68. Tibia
69. Patella

a. a
g. g
b. b
h. h
c. c
i. i
d. d
j. j
e. e
k. k
f. f

70. Blind spot
71. Tapetum
72. Iris
73. Pupil
74. Retina
75. Sclera
76. Aqueous humor
77. Vitreous humor
78. Cornea
79. Optic nerve
80. Lens
81. Occipital lobe
82. Temporal lobe
83. Brain stem
84. Hypothalamus
85. Pituitary
86. Frontal Lobe
87. Parietal Lobe
88. Cerebellum

a. cerebellum  
b. frontal lobe of cerebrum  
c. temporal lobe of cerebrum  
d. parietal lobe of cerebrum  
e. occipital lobe of cerebrum  
f. brain stem- medulla oblongata  
g. hypothalamus

89. movement  
90. thirst and hunger  
91. visual perceptions  
92. auditory, olfactory  
93. blood pressure, involuntary bodily movements  
94. balance

Essay
95. You need to have a cavity filled so the dentist injects a local anesthetic into your gums. Local anesthetics reversibly bind to Na⁺ channels and block the movement of sodium ions. Using what you know about signals, explain why this action can keep you from feeling pain.
Diseases and/or medical conditions often involve more than one system. In fact, the effects on a secondary system may be as serious as the primary system most associated with the problem. For example, heart disease can often cause fluid build up in the lungs. The primary system in this example is the cardiovascular system; the secondary system is the respiratory system. Fluid in the lungs will prevent the lungs from functioning properly causing the respiratory system to fail, yet the problem started with the cardiovascular system.

Describe another medical condition or disease where the primary system causes a serious problem with a secondary system.

Choose 1 labs/activities from the list below, and discuss the following information:

a. What actions were done in this lab/activity?
b. What were you supposed to have learned from the lab/activity?
c. Identify how these concepts are applicable in college or a future medical related career.

**Lab/ Activity Choices:**
Fetal Pig Dissection
Maniken Building (Identity, Nervous System, Endocrine System)
Forensic Anthropologist Report
Brain Swim Caps
Communication Breakdown- Neurological Disorders
Cow Eye Dissection
Visual Perceptions
98. From the list below, choose 2 scenarios.

   a. Identify the human body system the scenario affects
   b. Describe the impact on a person’s life if the part no longer functioned.
   c. For each scenario, describe the adaptations (physically or behaviorally) a person would need to increase their quality of life.

   - Destruction of the myelin sheath
   - Weakening of the orbicularis oris
   - Damage to the temporalis
   - Damage to the frontal lobe
   - Tumor of the pituitary gland
Human Body Systems (HBS) Fall Final Exam 2010- Peralta
Answer Section

MULTIPLE CHOICE
1. ANS: D
2. ANS: A
3. ANS: A
4. ANS: D
5. ANS: B
6. ANS: B
7. ANS: D
8. ANS: C
9. ANS: C
10. ANS: A
11. ANS: C
12. ANS: A
13. ANS: B
14. ANS: D
15. ANS: A
16. ANS: D
17. ANS: B
18. ANS: D
19. ANS: C
20. ANS: D
21. ANS: C
22. ANS: D
23. ANS: D
24. ANS: B

TRUE/FALSE
25. ANS: F
26. ANS: T
27. ANS: F
28. ANS: T
29. ANS: F
30. ANS: T
31. ANS: F
32. ANS: F
33. ANS: T
34. ANS: T
35. ANS: T
36. ANS: F
37. ANS: T
38. ANS: T
39. ANS: T
40. ANS: T
41. ANS: T
42. ANS: T
43. ANS: F
44. ANS: F

MATCHING

45. ANS: M
46. ANS: N
47. ANS: H
48. ANS: J
49. ANS: O
50. ANS: P
51. ANS: Q
52. ANS: R
53. ANS: L
54. ANS: E
55. ANS: S
56. ANS: U
57. ANS: G
58. ANS: K
59. ANS: F
60. ANS: C
61. ANS: A
62. ANS: F
63. ANS: J
64. ANS: B
65. ANS: A
66. ANS: I
67. ANS: K
68. ANS: E
69. ANS: G
70. ANS: J
71. ANS: H
72. ANS: E
73. ANS: C
74. ANS: F
75. ANS: G
76. ANS: B
77. ANS: K
78. ANS: A
79. ANS: I
80. ANS: D
81. ANS: D
82. ANS: B
83. ANS: H
84. ANS: F
85. ANS: G
86. ANS: A
87. ANS: E
88. ANS: C
89. ANS: B
90. ANS: G
91. ANS: D
92. ANS: E
93. ANS: F
94. ANS: A

SHORT ANSWER

95. ANS:
   asd
96. ANS:
   fd
97. ANS:
   dgf
98. ANS:
   frf