Take Home Opportunity #2 — 100 (W2011)

Instructions: Select the single best answer to each question. A = True, B = False, for True/False answers. Matching choices may be used more than once or not at all.

Muscles
1. Which of the following is not a function of skeletal muscle?
   a. maintain body temperature
   b. guard entrances and exits of tubular organs
   c. produce movement
   d. regulate blood pressure
   e. maintain posture and body position

2. This term does not apply to skeletal muscles
   a. visceral
   b. voluntary
   c. striated
   d. sarcoplasmic reticulum
   e. calcium

Questions 3 through 6 — Match muscle structure to function
3. the "light" regions in the striated pattern in striated muscle
4. the "thick" myofilament
5. where a lot of calcium is stored up and released from
6. located between two adjacent Z lines

Questions 7 — Match muscle metabolism
7. Of the events listed below, which is the third in the sequence leading to contraction of skeletal muscle?
   a. contraction begins
   b. acetylcholine released into myoneural junction
   c. cross bridges activated
   d. action potential reaches T-tubule
   e. sarcoplasmic reticulum releases calcium

Questions 8 through 14 — Match muscle metabolism
8. a slow, oxygen dependent process occurring within mitochondria
9. requires oxygen
10. the quickest source of ATP
11. produces lactic acid as a by-product
12. energy from this source is very brief, 5-15 sec. only
13. oxygen debt occurs with this
14. produces ATP
15. The "dark" meat, of a chicken, for example, is made up predominantly of myoglobin rich fibers.
   a. True
   b. False
Questions 16 through 19 — Match various muscle information

16. relative to each other, the triceps and biceps brachii are___?
17. the muscle attachment that moves with the action is the___?
18. muscles like the brachialis and coracobrachialis that help the biceps flex the forearm are called___?
19. This is the muscle attachment that remains stationary when the muscle action is performed.

20. Smooth and cardiac muscle functions are controlled primarily by the brain stem areas known as the pons, medulla, and hypothalamus.
   a. True
   b. False

21. This makes up 40-50% of our body mass, is highly structured histologically, and is our highest energy consumer.
   a. our skeletal system
   b. all of our adipose tissues
   c. our viscera
   d. skeletal muscles
   e. our nervous system

Questions 22 through 25 — Match neural structures and functions in skeletal muscle activity

22. spinal nerves that deliver information to myoneural junctions
23. a first step filtering system to "cool down" the initial motor instructions that eventually reach the muscles
24. the origin of the intention or “idea” for skeletal muscle movement
25. keeps everything “awake” so it all can work voluntarily

Questions 26 through 32 — Match various muscle information

26. uses ATP as an energy source
27. has striations
28. causes vasoconstriction and vasodilation
29. otherwise called voluntary muscle
30. lacks nuclei
31. regulated by the autonomic division of the nervous system
32. otherwise called smooth muscle

Questions 33 through 36 — Match muscle names and reasons for those names

33. trapezius
34. supinator
35. sternocleidomastoid
36. quadriceps

37. This type of weight training involves exerting force against an immovable object.
   a. isotonic
   b. isosmotic
   c. isokinetic
   d. isometric
   e. nonsense question, there is no such thing as weight training in which you do not move the weight itself.
38. This specific type of muscle tissue is involved in such diverse activities as influencing blood pressure via vasoconstriction and dilation, bronchoconstriction in asthma, peristalsis of the alimentary canal, & labor.
   a. smooth
   b. cardiac
   c. striated
   d. voluntary
   e. more than one of the preceding

39. Atrophy is the typical skeletal muscle condition resulting from weight training in which your muscles “get bigger” or bulge out over time.
   a. True
   b. False

Questions 40 through 43 — Match muscles to their descriptions

40. the “shoulder cap” muscle, it abducts the arm
    b. Triceps brachii
    c. Biceps Brachii
    d. Deltoid
    e. Sternocleidomastoid

41. in the neck area
    a. Triceps brachii
    b. Biceps Brachii
    c. Deltoid
    d. Sternocleidomastoid
    e. Gracilis

Questions 44 through 47 — Match muscles to their descriptions

44. visible only in the anterior view, it extends the leg at the knee
    a. trapezius
    b. teres minor
    c. quadriceps
    d. rhomboideus
    e. latissimus dorsi

45. one of the “rotator cuff” muscles
    a. trapezius
    b. teres minor
    c. quadriceps
    d. rhomboideus
    e. latissimus dorsi

46. middle of our back connecting skull, scapulae, and vertebrae; can move all these parts as well
    a. trapezius
    b. teres minor
    c. quadriceps
    d. rhomboideus
    e. latissimus dorsi

47. lower middle back and side areas, draws the shoulder downward, the largest muscle in the body.
    a. trapezius
    b. teres minor
    c. quadriceps
    d. rhomboideus
    e. latissimus dorsi

Questions 48 through 51 — Match muscles to their descriptions

48. not a muscle at all, it is a band of connective tissue that holds tendons in place
    a. flexor groups
    b. vastus medialis
    c. semimembranosus
    d. masseter
    e. retinaculum

49. muscles located in arms and legs
    a. flexor groups
    b. vastus medialis
    c. semimembranosus
    d. masseter
    e. retinaculum

50. elevates the mandible, enables chewing
    a. flexor groups
    b. vastus medialis
    c. semimembranosus
    d. masseter
    e. retinaculum

51. one of the “hamstring” muscles
    a. flexor groups
    b. vastus medialis
    c. semimembranosus
    d. masseter
    e. retinaculum

Nervous system

52. This term is unrelated to our nervous system.
   a. somatic
   b. peripheral
   c. systemic
   d. autonomic
   e. central

53. These cells are found abundantly within the central nervous system along with neurons.
   a. fibroblasts
   b. leukocytes
   c. myoblasts
   d. osteocytes
   e. glia
54. This is not part of a typical multipolar neuron.
   a. axon
   b. corpus callosum
   c. myelin
   d. nodes of ranvier
   e. dendrite

55. Schwann cells
   a. produce myelin.
   b. make neurotransmitters.
   c. generate ATP.
   d. inactivate neurotransmitters.
   e. do nothing. It is a nonsense term Davies made up to trick me.

56. Neurotransmitters are released into locations called
   a. Axon hillocks.
   b. glial spaces.
   c. neuron somas.
   d. synapses.
   e. subarachnoid spaces.

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Questions 57 through 60 — Match brain structures and functions

57. speech and auditory functions
58. visual perception
59. sensory perception (somatic)
60. personality and problem solving

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Questions 61 through 64 — Match brain structures and functions

61. our "sensory relay station" and pain perception
62. coordinates complex skeletal muscle movements
63. cardiovascular and respiratory autonomic centers are here
64. a two-part endocrine gland

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65. This term is out of place with the others listed.
   a. Subarachnoid space
   b. basal ganglia/nuclei
   c. choroid plexus
   d. cerebrospinal fluid (CSF)
   e. arachnoid granulations

66. This makes up the Central Nervous System.
   a. projection, association, and crossing fiber tracts
   b. brain and spinal cord
   c. the four lobes of the brain
   d. meninges
   e. sulci and gyri

67. This part of our brain is the oldest and has the most primitive functions.
   a. cerebrum
   b. sympathetic
   c. midbrain
   d. brain stem
   e. ventricles
68. This term is out of place with the others.
   a. dura mater
   b. pia mater
   c. peritoneum
   d. arachnoid
   e. all terms are related. None is "out of place" with the others.

69. This is contained within the subarachnoid space.
   a. cerebrospinal fluid
   b. blood
   c. lymphatic fluid
   d. interstitial fluid
   e. air

70. This is unrelated to the conduction of information within neurons
   a. movement of sodium ions across plasma membranes
   b. surmounting potential
   c. action potential
   d. refractory period
   e. resting membrane potential

71. This is out of place with the other terms.
   a. cholinesterase
   b. acetylcholine
   c. norepinephrine
   d. dopamine
   e. serotonin

Questions 72 through 76 — Match systems to descriptions

72. communicates across synaptic clefts
73. "messages" carried by blood
74. directly involves action potentials
75. has myelinated and unmyelinated pathways
76. "messages" are entirely chemical

Questions 77 through 81 — Match glands to descriptions

77. the "master gland" of the body
78. secretes aldosterone, cortisol, and epinephrine
79. secretes estrogen and progesterone
80. has both endocrine and exocrine functions
81. prime candidate as our "biological clock"

Questions 82 through 85 — Match abnormal conditions to hormones involved with them

82. excessive urine production
83. demineralization (resorption) of bone tissue
84. abnormal basal metabolic rate
85. depressed immune response
86. This statement is false.
   a. There are more spinal nerves than there are cranial nerves.
   b. Spinal nerves carry only sensory information.
   c. Both the brain and spinal cord have gray and white matter areas within them.
   d. Dorsal roots of spinal nerves have ganglia but ventral roots do not.
   e. The spinal cord ends very near lumbar vertebra #2.

87. “The” two body systems dedicated to “communication”
   a. reproductive and digestive
   b. cardiovascular and respiratory
   c. muscular and skeletal
   d. nervous and endocrine
   e. more than one of the above

88. This actually runs or controls pituitary gland activity.
   a. corpus callosum
   b. basal ganglia
   c. cerebellum
   d. reticular formation
   e. hypothalamus

89. Positive feedback is the primary homeostatic mechanism regulating the endocrine system.
   a. True
   b. False

90. The two chemical categories of hormones are
   a. steroids and non-steroids
   b. afferents and efferents
   c. water and lipid solubles
   d. central and peripheral
   e. excitatory and inhibitory

91. The “Father of Stress” is
   a. Darrell Davies.
   b. Hans Selye.
   c. Andreas Vesalius.
   d. Hippocrates.
   e. Claudius Galen

92. GH and EPO are
   a. The two chemical categories of hormones.
   b. inhibitory neurotransmitters.
   c. excitatory neurotransmitters.
   d. synaptic enzymes that inactivate acetylcholine and norepinephrine respectively.
   e. hormones.

93. There are four . . .
   a. parathyroid glands.
   b. chemical categories of hormones.
   c. steps in a typical monosynaptic reflex arc.
   d. ways to skin a cat.
   e. hormones secreted by the pituitary gland.
94. These **two glands** interact extensively during stressful conditions.
   a. thyroid and parathyroid
   b. pancreas and testicles
   c. ovaries and thymus
   d. adrenal and pituitary
   e. pineal and hypothalamus

95. This **gland** develops from oral ectoderm or the roof of the embryonic mouth.
   a. pineal
   b. anterior lobe of the pituitary
   c. hypothalamus
   d. basal ganglion
   e. none of the above

96. This **is not** a pituitary hormone
   a. melatonin
   b. ACTH (adrenocortical tropic hormone)
   c. GH (growth hormone)
   d. ADH (antidiuretic hormone)
   e. More than one of the above

97. This is the **“Fight or Flee” part of our nervous system**.
   a. somatic
   b. dynamic
   c. autonomic
   d. sympathetic
   e. parasympathetic

98. This **nervous system division** uses only acetylcholine as a neurotransmitter.
   a. autonomic
   b. synaptic
   c. central
   d. parasympathetic
   e. synergistic

99. It is not possible to gain any voluntary influence over autonomic functions.
   a. True
   b. False

100. This hormone interacts with our adipose tissues and effects female reproductive systems.
    a. growth hormone
    b. leptin
    c. lipase suppression hormone
    d. leuteotropic hormone
    e. estrogen