NOTE: The choices available in word banks may be used once, more than once or not at all.

For questions 1–10, choose your answers from the following:

- synapse
- cell body
- spinal cord
- spinal nerves
- peripheral nervous system
- axon
- sympathetic
- central nervous system
- brain
- dendrites

1-4. The large, central hub of a neuron, called the (1)__________________, contains the nucleus and organelles. Short, numerous fibers called (2)________ receive incoming messages, while a single, long fiber called a(an) (3)________ conducts signals toward other cells. A neuron ends in many branches, each with a bulb like (4)________________________ that contains neurotransmitters, which can be used to communicate signals to other neurons.

5-8. Your nervous system can be divided into two broad subsystems, the (5)_______ and (6)________________________. The latter of these is made of nerves that conduct signals to and from the other structures. The former consists of the (7)________________ and (8)________________________.

9. While driving down the interstate at rush hour, you get cut off by another driver and have to slam on the brakes. In addition to a major case of road rage, you also develop a rapid heart rate and breathing rate. This was caused by activation of the __________________ part of your nervous system.

10. The nerves that come from the spinal cord between vertebrae are called __________________.
For the questions 11-16, use the following answers:

Corti  Cold
Femur  Hinge
Ion channels  Ribs

11. In neuron communication, neurotransmitters bind to receptors that are associated with what?

12. An example of a sensory receptor found in the skin is the sensation of _______.

13. The organ of __________________________ is responsible for initiating nerve impulses in the ear that result in hearing.

14. The largest bone in the body is the ___________________________.

15. A joint that moves in only one direction is called a __________________________ joint.

16. The sternum articulates with what bones? __________________________

For questions 17-25, use these answers:

Tibia  Humerus
Clavicle  Spongy
Vertebra  Cartilage
Bicep  Flexion
Myosin

17. What is the upper arm bone? __________________________

18. The backbone is made of what? __________________________

19. The shin bone is properly called the ___________________________.

20. The middle or shaft of a long bone such as the femur is made of compact bone. What kind of bone are the ends made of? __________________________

21. The shoulder girdle is made of the scapula and the __________________________.

22. A type of connective tissue covering the ends of long bones is called __________________________.
23. An antagonistic pair of muscles are the tricep and the ____________.

24. What type of movement occurs when the hamstring muscle contracts? ________________

25. Actin and ________________ interact to cause muscle contraction.

26. Our bodies first line of defense is:
   a. white blood cells
   b. skin
   c. antibodies

27. Which of the following is (are) a response typical of the body to a cut in the skin?
   a. inflammatory response
   b. release of interferon
   c. production of antibodies

For questions 28-37, use the following:

<table>
<thead>
<tr>
<th>Humoral</th>
<th>Cell-mediated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innate</td>
<td>Acquired</td>
</tr>
<tr>
<td>Type I diabetes</td>
<td>Allergies</td>
</tr>
<tr>
<td>Glands</td>
<td>Plasma membranes</td>
</tr>
<tr>
<td>Natural passive</td>
<td>Antigens</td>
</tr>
</tbody>
</table>

28. Foreign molecules that elicit an immune response are called ____________.

29. B-cells are responsible for what type of immunity? ________________.

30. T cells are responsible for what type of immunity? ________________.

31. Inborn resistance to infection is called ________________ immunity.

32. What kind of immunity is conferred by transfer of maternal antibodies in breast milk? ________________.

33. Natural ________________ immunity develops after exposure to antigens in the environment.

34. An example of an autoimmune disease is ________________.

35. Asthma, sneezing and swelling after an insect sting are all examples of immune system overreactions to antigens called ________________.
36. Hormones are products of ductless _________________.
37. Large molecular weight hormones bind to receptors located in (on) _________________.

For questions 38-47, use these answers:

- Cytoplasm
- Adrenal
- Thyroid gland
- Insulin
- Cortisol
- Oxytocin
- Anterior pituitary
- Calcium
- Posterior pituitary
- Testes

38. Steroid hormones bind to specific receptors found in the ________________ of the target cells.
39. These glands are located on the kidneys. _________________.
40. Produce thyroxine. _________________.
41. The pancreas secretes _________________.
42. Secreted from the posterior pituitary gland. _________________.
43. PTH helps to regulate _________________.
44. The adrenal cortex secretes _________________.
45. Testosterone is secreted by the _________________.
46. GH is produced by the _________________.
47. ADH is produced by the _________________.

For questions 48-57, use the following:

- Glucose
- Fight/fright
- Calcitonin
- Epinephrine
- Glucagon
- Hypo Thalamus
- Adrenal medulla
- Growth hormone
- Adrenal cortex
- Cortisol

48. It controls the thyroid, pituitary and adrenal cortex. _________________.
49. The pancreas increases its output of insulin in response to an increase in blood _________________.

50. A 9-year-old child has been diagnosed with pituitary dwarfism. The hormone he is lacking is ________________.

51. Calcium homeostasis requires PTH and a second hormone called ________________, produced by the Thyroid gland.

52. When glucose levels in the blood decline, what hormone is released by the pancreas? ________________.

53. Short-term stress activates the body's ________________ response.

54. What hormone is produced in response to short-term stress? ________________.

55. Epinephrine is secreted by what gland? ________________.

56. Long-term stress is medicated by what hormone? ________________.

57. Cortisol and often corticosteroids are secreted from what gland? ________________.

For questions 58-67, use the following:

<table>
<thead>
<tr>
<th>Vagina</th>
<th>Uterus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epididymus</td>
<td>Vas deferens</td>
</tr>
<tr>
<td>Oviduct</td>
<td>Urethra</td>
</tr>
<tr>
<td>Yeast infection</td>
<td>HIV</td>
</tr>
<tr>
<td>Cryptorchidism</td>
<td>Scrotum</td>
</tr>
</tbody>
</table>

58. When an egg is ovulated, it is retrieved by the ________________.

59. A fertilized egg will be transported to the ________________.

60. What part of the female reproductive tract is common to the excretory system? ________________.

61-63. Sperm go from the testes to the (61) ________________, then the (62) ________________ and finally to the (63) ________________.

64. An example of a viral-caused STD ________________.

65. An example of a fungal-caused STD ________________.

66. It lowers the temperature of the testes. ________________.

67. When testes remain in the abdomen, it is called ________________.
Match each reproductive structure with its description:

68. Uterus  ________  1. Sperm duct
69. Vas deferens ________  2. Female gonad
70. Oviduct ________  3. Site of pregnancy
71. Ovary ________  4. Site of spermatogenesis
72. Testes ________  5. Site of fertilization

Use the following choices for questions 73-82:

12  5
True  14
28  Placenta
Sperm  False
Ectopic  53

73. Boys attain reproductive capability at an average age of ________ years.
74. Girls attain menarche at an average age of ________ years.
75. Menopause occurs on average at an age of ________ years.
76. The length of an average menstrual cycle is ________ days.
77. Ovulation normally occurs near the middle of the menstrual cycle. True or False ________.
78. The smallest cell in the body is the ________.
79. Girls as young as 10 years old can sometimes become pregnant. True or False ________.
80. Pregnancies that occur outside the uterus are called ________ pregnancies.
81. Hypotheses must always be testable. True or False ________.
82. A “theory” is an accepted position and considered to be essentially fact by the people working in that field of study. True or False ________.

83. The genus and species names for modern humans are:
   a. Homo domestica
   b. Felis domestica
   c. Neanderthalensis
   d. Homo sapiens
84. Buffer systems serve to prevent large variations in:
  a. pH.
  b. water content.
  c. hydrogen bonding.
  d. vesicle formation.

85. A single amino acid substitution in a protein can result in drastic changes in a protein's structure and function. True or False

86. Prokaryotic cells have a nucleus. True or False

87. A red blood cell, dropped into a beaker containing a hypertonic solution, will:
  a. swell.
  b. burst.
  c. shrink.
  d. stay the same.

88 - 90. The overall equation for cellular respiration is:

\[ \text{C}_6\text{H}_12\text{O}_6 + \text{________} \rightarrow \text{________} + \text{________} + \text{energy} \]

91 - 92. The overall equation for photosynthesis is:

\[ 6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{________} + \text{________} \]

93. The two daughter cells that are the result of mitosis are:
  a. genetically identical to each other.
  b. genetically identical to their parent cell.
  c. diploid.
  d. all of the above
  e. a & b only

94. The chromosome content of gametes is said to be diploid. True or False

95. Every organism carries its genetic information in what molecule?________

96. Cloning of animals requires a donor cell with a complete set of genes for the organism. An example of a cell that would be satisfactory for cloning might be what?________

97. Blood from the superior and inferior vena cava enters the heart where?________

98. The pulmonary artery carries oxygenated blood. True or False

99. Oxygen is carried in the blood stream bound to ____________ in the red blood cell.

100. What body system exchanges O2 and CO2 between blood and air?________