Instructions: There are 50 questions; each is worth 2 pts. Write down the best answer for each one. Please make sure that you fill out your scantron correctly. In case of discrepancy, the answer on the scantron will be considered your answer. When you’re finished, please hand in the scantron. You may keep the exam. Good luck!

1) An example of a disease that is caused by your immune system attacking parts of your own body:
   a) malaria  b) sleeping sickness  c) HIV/AIDS  d) tuberculosis  e) Multiple sclerosis

2) A disease that attacks helper T-cells:
   a) malaria  b) sleeping sickness  c) HIV/AIDS  d) tuberculosis  e) Multiple sclerosis

3) A disease transmitted by tse-tse flies:
   a) malaria  b) sleeping sickness  c) encephalitis  d) West Nile  e) Chagas' disease

4) Waste product used by birds and many reptiles:
   a) ammonia  b) urea  c) uric acid  d) none of the above

5) Establishes a salt concentration gradient in the kidneys:
   a) glomerulus  b) Bowman's capsule  c) proximal tubule  d) Loop of Henle

6) An increasing amount of ADH makes the collecting duct:
   a) more permeable to water  b) less permeable to water

7) Not produced by the anterior pituitary:
   a) GH  b) ADH  c) ACTH  d) MSH  e) Prolactin

8) Secreted by the pineal gland:
   a) thyroxine  b) insulin  c) glucagon  d) melatonin  e) oxytocin

9) To reduce blood sugar, the pancreas releases:
   a) insulin  b) glucagon  c) thyroxine  d) glucose  e) glycerol

10) As a result of this exam, your adrenal glands are probably releasing (pick best answer):
    a) adrenalin  b) corticosteroids  c) ACTH

11) The ability to grow a new individual from pieces that are broken off the body is:
    a) fission  b) fragmentation  c) budding  d) parthenogenesis

12) Some female animals can lay eggs without the eggs needing to be fertilized. This is an example of:
    a) fission  b) hermaphrodism  c) parthenogenesis  d) fission

13) True or false: some animals (e.g. fish) can change sex from female into male:
    a) True  b) False

14) Humans have:
    a) external fertilization  b) internal fertilization
15) An animal that lays eggs has what kind of reproduction?
   a) oviparous  b) viviparous  c) ovovivparous  d) vivoviparous  e) none of the above

16) Sperm are matured and stored in the:
   a) vas deferens  b) seminal vesicles  c) epididymis  d) prostate gland

17) Gland that contributes a clear mucus to semen. Also helps neutralize acidity.
   a) vas deferens  b) seminal vesicles  c) bulbourethral glands  d) testes

18) Gland that often causes many medical problems in older men:
   a) vas deferens  b) bulbourethral glands  c) prostate gland  d) seminal vesicles

19) Immediately after releasing the egg, the follicle:
   a) disintegrates  b) starts over and makes another egg  c) becomes a corpus luteum

20) Area of the female reproductive tract that is lined with cilia:
   a) uterus  b) cervix  c) ovaries  d) oviducts  e) none of the above

21) Follicles start to grow as a result of increasing levels of:
   a) estrogen  b) progesterone  c) testosterone  d) FSH  e) oxytocin

22) Progesterone is produced primarily by the:
   a) anterior pituitary  b) posterior pituitary  c) corpus luteum  d) pineal gland

23) Contraction are started by increasing levels of:
   a) prolactin  b) estrogen  c) oxytocin  d) FSH  e) LH

24) True/False: A large part of the immunity in infants comes from the mother's breast milk:
   a) True  b) False

25) The part of a neuron that takes a signal out of the cell:
   a) nerve cell body  b) axon  c) dendrite

26) Multiple sclerosis destroys:
   a) neurons  b) astrocytes  c) the myelin sheath  d) synapses

27) Help maintain the blood/brain barrier:
   a) neurons  b) astrocytes  c) the myelin sheath  d) synapses

28) At rest, a neuron has more K⁺ ions on the:
   a) inside  b) outside

29) Opening all the Na⁺ gates in a neuron causes the inside of the neuron to become:
   a) negative  b) positive

30) Synapses in humans are:
   a) chemical  b) electrical
31) True or false: neurotransmitters always “excite” the post-synaptic neuron:
   a) True   b) False

32) A really, really bad thing to give to an elephant:
   a) LSD   b) morphine   c) serotonin   d) dopamine

33) A disease that can shut down pain receptors:
   a) Tuberculosis   b) Leprosy   c) HIV/AIDS   d) Malaria   e) Sleeping sickness

34) True or false: both hot and cold are sensed by the same receptors:
   a) True   b) False

35) The three middle ear bone that transmits vibrations to the oval window:
   a) hammer (= malleus)   b) anvil (= incus)   c) stirrup (= stapes)

36) Used to equalize pressure in the middle ear:
   a) upper canal   b) lower canal   c) sinuses   d) eustachian tube   e) eardrum

37) The hairs inside the Organ of Corti brush against the:
   a) upper canal   b) lower canal   c) tectorial membrane   d) eustachian tube

38) A healthy (younger) human can hear what range of frequencies (in Hz)?
   a) 20 - 2,000   b) 15 - 3,000   c) 40 - 60,000   d) 20 - 20,000   e) 5 - 500

39) Bats can use echolocation to determine all except which of the following about a moth:
   a) speed   b) direction   c) texture   d) size   e) color

40) An animal that can hear sounds below 20 Hz:
   a) Bat   b) Human   c) Dog   d) Elephant   e) Sponge

41) Movement (motion) is detected by the:
   a) utricle   b) saccule   c) semi-circular canals   d) Organ of Corti

42) True or false: dogs and humans have about the same number of different kinds of chemoreceptor cells:
   a) True   b) False

43) A bird found around here with a good sense of smell:
   a) canary   b) sparrow   c) cardinal   d) chicken   e) vulture

44) The “whites” of your eyes:
   a) sclera   b) choroid   c) retina   d) iris   e) cornea

45) This structure determines your eye color:
   a) sclera   b) choroid   c) retina   d) iris   e) cornea

46) Used to detect color:
   a) rods   b) cones   c) none of the above
47) True or false: some snakes can “see” infrared radiation (heat) using pits just below their eyes:
   a) True       b) False

48) Thin filaments in myofibrils:
   a) actin       b) myosin

49) ATP is needed to reset:
   a) actin heads  b) myosin heads  c) tropomyosin

50) Muscles that allow for sustained contractions (don't tire quickly):
   a) fast fibers  b) medium fibers  c) slow fibers  d) painfully slow fibers

Reminders:

1) Please put your G-number on the scantron before you hand it in.

2) You may keep the exam.

3) Use blackboard to look up your score (hopefully within 24 hours).