

**Instructions:** There are 50 questions. 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. Good luck!

d\_\_ 1) Hearing is a:

- a) thermoreceptor    b) chemoreceptor    c) electromagnetic receptor    d) mechanoreceptor  
e) pain receptor

e\_\_ 2) Leprosy can shut down:

- a) thermoreceptors    b) chemoreceptors    c) electromagnetic receptors    d) mechanoreceptors  
e) pain receptors

d\_\_ 3) Where do you have the most nerve endings (e.g., touch receptors)?

- a) back    b) forearm    c) calf    d) fingertips

a\_\_ 4) True or false: the three middle ear bones serve to amplify sound:

- a) true    b) false

a\_\_ 5) True or false: the round window is used to dampen (absorb) vibrations:

- a) true    b) false

d\_\_ 6) Healthy (younger) humans can hear what range of sounds?

- a) 10 - 100 Hz    b) 20 - 200 Hz    c) 30 - 300 Hz    d) 20 - 20,000 Hz

e\_\_ 7) Bats can use sound to detect an insect's:

- a) location    b) speed    c) size    d) texture    e) all of the above

b\_\_ 8) Used to detect movement:

- a) utricle and saccule    b) semicircular canals    c) pinna    d) stapes

a\_\_ 9) True or false: dogs and humans have about the *same number of different kinds* of smell receptors:

- a) True    b) False

d\_\_ 10) The whites of your eyes are made up of the:

- a) retina    b) cornea    c) choroid    d) sclera    e) iris

e\_\_ 11) Gives your eyes their color:

- a) retina    b) cornea    c) choroid    d) sclera    e) iris

b\_\_ 12) The circular muscles (= ciliary muscles) surrounding your lens are relaxed when you are looking at something:

- a) close up    b) far away    c) impossible to tell

- c\_\_ 13) Cones come in three different varieties, sensitive to:  
a) yellow, orange & brown      b) yellow, green & pink      c) red, green & blue  
d) purple, orange & yellow      e) magenta, yellow & cyan
- a\_\_ 14) True or false: the right side of both eyes goes to the right side of the brain:  
a) true      b) false
- a\_\_ 15) True or false: some snakes (e.g., pit vipers) can detect infrared radiation:  
a) true      b) false
- a\_\_ 16) Humans have an:  
a) endoskeleton      b) exoskeleton      c) hydrostatic skeleton      d) none of the above
- a\_\_ 17) True or false: muscles can only contract:  
a) true      b) false
- e\_\_ 18) When an action potential arrives from a nerve, the sarcoplasmic reticulum releases:  
a) Na<sup>+</sup>      b) K<sup>+</sup>      c) Cl<sup>-</sup>      d) Mg<sup>++</sup>      e) Ca<sup>++</sup>
- d\_\_ 19) Myosin heads attach to:  
a) Tropomyosin      b) myofibrils      c) sarcomeres      d) actin
- a\_\_ 20) The flight muscles of chickens and pheasants are made up of:  
a) fast fibers      b) slow fibers      c) medium fibers      d) painfully slow fibers
- a\_\_ 21) True or false: your brain contains ventricles:  
a) true      b) false
- b\_\_ 22) The outside layer/covering of the meninges is called the:  
a) pia mater      b) dura mater      c) arachnoid membrane      d) doesn't matter
- b\_\_ 23) The autonomic nervous system is:  
a) voluntary      b) non-voluntary
- e\_\_ 24) Coordinates information coming from different parts of the body and sends it to the correct spot on the cortex:  
a) medulla      b) pons      c) hippocampus      d) corpus callosum      e) thalamus
- a\_\_ 25) True or false: the cerebellum sends motor information to the thalamus (and then to the motor cortex):  
a) true      b) false
- a\_\_ 26) Controls breathing, heart and blood vessel activity:  
a) medulla      b) hypothalamus      c) hippocampus      d) corpus callosum      e) thalamus
- c\_\_ 27) Registers emotional content:  
a) medulla      b) hippocampus      c) limbic system      d) reticular formation

- c\_\_28) If you do well on this exam, you have successfully put a lot of (trivial?) facts into your:  
a) immediate memories      b) short term memories      c) long term memories
- b\_\_29) Required for learning:  
a) medulla      b) hippocampus      c) limbic system      d) reticular formation
- c\_\_30) Plants evolved from:  
a) fungi      b) bacteria      c) green algae      d) none of the above
- a\_\_31) True or false: spores are haploid:  
a) true      b) false
- d\_\_32) An example of a non-vascular plant:  
a) Pine tree      b) Oak tree      c) Fern      d) Moss
- a\_\_33) True or false: liverworts are called “liver”worts because they were once thought to resemble a liver:  
a) true      b) false
- a\_\_34) Gymnosperms include:  
a) Pine tree      b) Oak tree      c) Fern      d) Moss
- c\_\_35) Gymnosperms reproduce using:  
a) flowers      b) internal fertilization      c) cones      d) spores on the underside of leaves
- e\_\_36) A male part of a flower:  
a) stigma      b) ovary      c) style      d) carpel      e) anther
- e\_\_37) A plant that has flowers that stink like rotting meat is pollinated by:  
a) bees      b) butterflies      c) bats      d) wolves      e) flies
- a\_\_38) True or false: some flowers open at night and are pollinated by bats:  
a) True      b) False
- e\_\_39) Roots can do all of the following except:  
a) anchor the plant      b) store food      c) absorb water      d) absorb nutrients  
e) there are no exceptions on this list
- a\_\_40) Xylem transports:  
a) water up the plant      b) nutrients around the plant      c) none of the above
- b\_\_41) Plants that live two years are called:  
a) annuals      b) biennials      c) perennials
- c\_\_42) Plants get thicker (secondary growth) by using:  
a) apical meristem      b) cork cambium      c) vascular cambium
- a\_\_43) Non-functioning xylem, found closer to the center of a tree:  
a) heartwood      b) sapwood

- a\_\_\_ 44) True or false: in temperate zones trees can be aged by counting rings. This can be done without killing the tree:  
a) true            b) false
- b\_\_\_ 45) True or false: to determine how many rats are living in the sewer systems and subway tunnels of D.C., I need to count every single one:  
a) true            b) false
- a\_\_\_ 46) A population that grows without limit (nothing stops its growth) has what kind of growth?  
a) exponential            b) logistic            c) constant            d) sigmoid
- e\_\_\_ 47) Which of the following does NOT affect carrying capacity:  
a) food            b) territory            c) nesting sites            d) predation  
e) there are no exceptions on this list
- d\_\_\_ 48) An example of a predator-prey relationship we discussed in class that exhibits strong up and down cycles over many years:  
a) ant-lizard            b) human-cow            c) squirrel-hawk            d) lynx-hare            e) lion-gazelle
- b\_\_\_ 49) Squirrels, which die equally at any age, have what kind of survivorship curve?  
a) I            b) II            c) III            d) IV
- b\_\_\_ 50) Humans are:  
a) r-selected            b) k-selected            c) neither

***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).