

Name: _____

G-number _____

Lab instructor's name: _____

Lab section: _____

**Introductory Biology II, Exam III
Spring, 2006**

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 & exam sheet. **Good luck!**

- b___ 1) A cluster of *nerve cell bodies* is known as a:
a) nerve b) ganglion c) sensory nerve d) motor nerve e) meninges
- b___ 2) a signal leaves a neuron through the:
a) dendrites b) axon c) nerve cell body d) nucleus e) muscle cell
- b___ 3) All neurons have more or less the same shape:
a) True b) False
- a___ 4) At rest, the voltage on the inside of a neuron (measured with respect to the outside) is about:
a) -70mv b) +70mv c) -50mv d) +50mv e) +35mv
- b___ 5) A neuron is depolarized because of:
a) Na⁺ ions moving out b) Na⁺ ions moving in c) K⁺ ions moving out
d) K⁺ ions moving out e) nothing moving anywhere
- c___ 6) A neurotransmitter can:
a) increase the membrane voltage in the post-synaptic neuron
b) decrease the membrane voltage in the post-synaptic neuron
c) do either a or b depending on the type of neurotransmitter
d) none of the above
- d___ 7) morphine and heroin mimic:
a) acetylcholine b) dopamine c) serotonin d) endorphin e) none of the above
- d___ 8) The two main types of receptors in the body are interoceptors and:
a) motor receptors b) auserhalbreceptors c) excitatory receptors d) exteroceptors
e) none of the above
- d___ 9) The process by which a stimulus is converted into an action potential is known as:
a) integration b) transmission c) amplification d) sensory transduction e) synthesis
- a___ 10) Hearing is a:
a) mechanoreceptor b) pain receptor c) thermoreceptor d) chemoreceptor
e) electromagnetic receptor

- e ___ 11) The sense of touch usually includes all of the following EXCEPT:
 a) deep touch receptors b) light touch receptors c) pain receptors d) cold receptors
 e) there are no exceptions on this list
- c ___ 12) The eustachian tubes:
 a) push sound against the malleus b) collect and channel sound to the auditory canal
 c) equalize pressure between the outer and middle ear d) are part of the cochlea
 e) contain the Organs of Corti
- c ___ 13) The tectorial membrane is found in the:
 a) upper or vestibular canal b) lower or tympanic canal c) middle canal or cochlear duct
 d) eustachian tubes e) utricle
- d ___ 14) Animals that can hear frequencies below 20 Hz:
 a) humans b) bats c) sponges d) elephants e) jellyfish
- b ___ 15) Humans detect movement using the:
 a) cochlea b) semi-circular canals c) utricle d) saccule e) pinna
- c ___ 16) Dogs have approximately how many *different* chemoreceptor cells (careful here)?
 a) 10 b) 100 c) 1,000 d) 10,000 e) 100,000
- e ___ 17) Animals (vertebrates) active at night often have a (careful, trick question):
 a) choroid b) sclera c) tapetum d) retina e) all of the above
- c ___ 18) The amount of light that enters the eye is controlled by the:
 a) cornea b) sclera c) iris d) lens e) retina
- a ___ 19) When focusing on something near (close-up), the lens becomes more:
 a) round b) flat c) transparent d) opaque e) purple
- c ___ 20) Cones come in three basic types, which are sensitive to:
 a) yellow, purple & green b) red, purple & yellow c) red, green & blue
 d) magenta, cyan & yellow e) brown, black & gray
- c ___ 21) The blind spot is caused by the:
 a) cornea b) sclera c) optic nerve d) lens e) iris
- d ___ 22) Animals that can sense the electrical signals generated by muscle contractions include:
 a) humans b) bats c) pit vipers d) sharks e) hawks
- d ___ 23) Insects have an exoskeleton. They can:
 a) grow to a large size and must molt b) not grow to a large size and don't have to molt
 c) grow to a large size and don't have to molt d) not grow to a large size and have to molt
 e) none of the above
- a ___ 24) Squid and octopus can move by:
 a) jet propulsion b) brachiation c) flying d) running e) hopping
- c ___ 25) Myosin binding sites are normally covered by by:
 a) actin b) Ca⁺ c) tropomyosin d) ATP e) rigor mortis

- c__26) Muscle movement is caused by the:
 a) movement of actin heads b) movement of tropomyosin heads c) movement of myosin heads
 d) none of the above
- c__27) Muscles that allow slow sustained contractions are also known as:
 a) fast fibers b) intermediate fibers c) slow fibers d) crossed fibers e) unifibers
- e__28) The most intelligent *in*vertebrates are probably:
 a) humans b) dolphins c) cnidarians (jellyfish) d) crabs e) squid & octopus
- c__29) Gray matter consists mostly of:
 a) the myelin sheath b) ventricles c) nerve cell bodies d) meninges e) none of the above
- a__30) The meninges consist of several layers; the tough outside layer is also known as the:
 a) dura mater b) pia mater c) arachnoid membrane d) medulla e) cork layer
- d__31) Sensory information is taken from the sensory neuron to the thalamus and then to the (pick *best* answer):
 a) hypothalamus b) hippocampus c) limbic system d) sensory cortex e) medulla
- c__32) The part of the brain that lets you determine the direction of sound is the:
 a) hypothalamus b) hippocampus c) superior olive d) optic chiasma e) pons
- d__33) The area of the brain where “intelligence” and “consciousness” reside is the:
 a) medulla b) hypothalamus c) superior olive d) cerebral cortex e) cerebellum
- e__34) Responsible for motor coordination:
 a) medulla b) hypothalamus c) superior olive d) cerebral cortex e) cerebellum
- a__35) Determines the emotional content of information reaching the brain:
 a) limbic system b) reticular formation c) corpus callosum d) cerebellum e) pons
- c__36) A person who senses an object with his left hand may not be able to name the object if he/she has a severed:
 a) cerebrum b) ventricle c) corpus callosum d) cerebellum e) medulla
- c__37) Plants most likely evolved from:
 a) moss b) angiosperms c) green algae d) sponges e) fish
- c__38) Designed to anchor the plant and absorb water and minerals from the soil:
 a) leaves b) shoots c) roots d) flowers e) none of the above
- a__39) Bryophytes is a general term used for plants:
 a) without a vascular system b) with a vascular system c) with chloroplasts d) b & c
 e) none of the above
- a__40) The gametophyte in plants is:
 a) haploid b) diploid c) triploid d) quadroploid e) hexaploid
- a__41) In mosses, the dominant stage of the life cycle is the:
 a) gametophyte b) sporophyte c) mesophyte d) egg e) capsule
- e__42) Also known as naked seed plants:
 a) angiosperms b) ferns c) mosses d) lycophytes e) gymnosperms

- a ___ 43) Grasses (like the ones on any lawn) have flowers:
a) true b) false
- c ___ 44) In order to be pollinated, some flowers discussed in class attract flies. These flower smell:
a) pleasant b) sweet c) like a rotting corpse d) a & b e) none of the above
- e ___ 45) Xylem (in angiosperms) is made up of:
a) tracheids b) vessels c) sieve tubes d) all of the above e) a & b
- e ___ 46) Vascular tissue is made up of:
a) xylem b) phloem c) epidermal tissue d) ground tissue e) a & b
- b ___ 47) Dicots generally have:
a) parallel veins b) branched veins c) no veins d) a dicot e) a & b
- c ___ 48) Monocots and dicots are named for:
a) the number of shoots they have b) the number of roots they have
c) the number of seed leaves (cotyledons) they have d) a & b e) none of the above
- c ___ 49) The stomata are surrounded by:
a) mesophyll b) vascular tissue c) guard cells d) sleepy cells e) none of the above
- a ___ 50) Mesophyll is composed mostly of:
a) parenchyma cells b) stomata c) guard cells d) xylem e) sclereids

Reminder

Please put the name of your lab instructor and your section number on the front of the exam, then hand in your scantron and this exam.