

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. You may keep the exam. Good luck!

- a ___ 1) True or false: When presented with an antigen, helper T-cells can make memory cells:
a) True b) False
- a ___ 2) True or false: Perforin is used by cytotoxic T-cells to puncture infected cells of the body.
a) True b) False
- e ___ 3) An example of an autoimmune disease:
a) Sleeping sickness b) tuberculosis c) malaria d) common cold e) multiple sclerosis (MS)
- d ___ 4) Sleeping sickness is transmitted by:
a) sneezing b) exchange of body fluids c) mosquitoes d) Tse-tse flies
- d ___ 5) Which does not help you save water:
a) being active at night b) having a water tight skin c) making concentrated urine d) eating salt
- c ___ 6) Mammals (e.g., humans & dogs) use which waste product?
a) ammonia b) uric acid c) urea d) hydrogenated ammonia e) amino acids
- d ___ 7) Waste is expelled from the glomerulus into:
a) the distal tubule b) the proximal tubule c) the Loop of Henle d) Bowman's capsule
- c ___ 8) The purpose of the Loop of Henle is:
a) to receive material from the glomerulus b) to re-absorb necessary nutrients
c) to set up a salt concentration gradient in the kidney d) to remove salt from the collecting duct
- a ___ 9) True or false: the collecting duct has a membrane in which the permeability can be changed:
a) True b) False
- a ___ 10) If the level of ADH increases, the membrane of the collecting duct becomes:
a) more permeable to water b) less permeable to water c) permeability is not affected
- b ___ 11) Not stored in the anterior pituitary:
a) ACTH b) melatonin c) MSH d) TSH e) prolactin
- d ___ 12) Stimulates mammary glands to make milk:
a) ADH b) MSH c) TSH d) prolactin e) insulin
- c ___ 13) Increases blood calcium levels:
a) ADH b) calcitonin c) parathyroid hormone d) insulin e) thyroxin
- d ___ 14) Increases blood sugar:
a) insulin b) calcitonin c) tyroxin d) glucagon e) prolactin
- b ___ 15) Insulin is made by:
a) alpha cells in the pancreas b) beta cells in the pancreas c) none of the above
- b ___ 16) In response to this exam, your pituitary is probably releasing:
a) adrenalin b) ACTH c) ADH d) TSH e) prolactin
- b ___ 17) True or false: corticosteroids increase immune system function (help boost the immune system):
a) True b) False

- c__ 18) Reproduction in which the individual is broken into several pieces, each of which can form a new individual:
a) fission b) budding c) fragmentation d) parthenogenesis e) fusion
- d__ 19) Used by some sharks and lizard to reproduce asexually:
a) fission b) budding c) fragmentation d) parthenogenesis e) fusion
- b__ 20) Some animals can reproduce both sexually and asexually. They usually reproduce sexually when:
a) Times are good b) Times are bad/stressful
- a__ 21) True or false: some animals can switch sex (for example, start out female and become male):
a) True b) False
- a__ 22) In many frogs, eggs are released by the female. The male then covers the eggs with sperm. This type of fertilization is:
a) external b) internal c) none of the above
- c__ 23) An animal that has live birth but does not provide nutrients to the young is said to have what kind of birth?
a) viviparous b) oviparous c) ovoviviparous
- b__ 24) Once manufactured, sperm are stored in the:
a) vas deferens b) epididymis c) seminal vesicles d) bladder e) bulbourethral gland
- b__ 25) After ovulation, the follicle:
a) disintegrates immediately b) turns into a Corpus luteum c) makes another egg d) releases TSH
- a__ 26) True or false: the oviducts (= fallopian tubes) are lined with cilia:
a) True b) False
- a__ 27) True or false: most mammals have an estrous cycle, not a menstrual cycle:
a) True b) False
- d__ 28) TSH production can be slowed/stopped by:
a) LH b) ADH c) testosterone d) progesterone e) prolactin
- a__ 29) True or false: the baby gets a lot of it's immunity from antibodies in the mother's breast milk:
a) True b) False
- b__ 30) Nerves in your finger are part of the:
a) CNS b) PNS c) LNS
- a__ 31) Cells that support the nervous system and help make up the blood/brain barrier:
a) astrocytes b) Schwann cells c) oligodendrocytes d) synaptic cells
- b__ 32) The resting voltage of a nerve cell is about:
a) +70mv b) -70mv c) +35mv d) -35mv e) 120v
- a__ 33) When a nerve cell becomes slightly positive:
a) Na⁺ ions move in b) Na⁺ ions move out c) Cl⁻ ions move out d) Cl⁻ ions move in
- a__ 34) During an action potential:
a) Na⁺ ions move in followed by K⁺ ions moving out b) K⁺ ions move in followed by Na⁺ ions moving out
c) Na⁺ move out followed by K⁺ ions moving in d) K⁺ ions move out followed by Na⁺ ions moving in
- d__ 35) The speed of a signal (action potential) in humans is about:
a) 1 m/s b) 15 m/s c) 100 m/s d) 150 m/s e) 250 m/s

- a ___ 36) True or false: the speed of a signal (action potential) in humans is much higher than expected due to the presence of the myelin sheath:
a) True b) False
- b ___ 37) True or false: a post synaptic neuron is always excited by the pre synaptic neuron:
a) True b) False
- d ___ 38) Examples of neurotransmitters include all of the following except:
a) dopamine b) serotonin c) acetylcholine d) thyroxine
- c ___ 39) A really, really bad thing to give to an elephant:
a) dopamine b) serotonin c) LSD d) heroin e) endorphins
- a ___ 40) The sense of balance is a:
a) mechanoreceptor b) thermoreceptor c) chemoreceptor d) electromagnetic receptor
e) pain receptor
- e ___ 41) Leprosy can shut down which type of receptor?
a) mechanoreceptor b) thermoreceptor c) chemoreceptor d) electromagnetic receptor
e) pain receptor
- a ___ 42) Not part of the middle ear:
a) auditory canal b) hammer c) anvil d) stirrup e) eustachian tube
- b ___ 43) Volume of sound is determined by:
a) the location of vibrations set up in the middle canal
b) the number of hairs in the Organ of Corti that set off action potentials
- d ___ 44) An animal that uses frequencies below 20 Hz to communicate:
a) bat b) dog c) human d) elephant
- d ___ 45) Humans can detect about how many different kinds of smells (at high concentrations)?
a) 1 b) 10 c) 100 d) 10,000 e) 100,000
- a ___ 46) True or false: dogs have about the same number of *different kinds* of smell receptors as humans:
a) True b) False
- c ___ 47) Part of the eye behind the retina that is black in humans (it absorbs reflections):
a) sclera b) aqueous humor c) choroid d) cornea e) tapetum
- a ___ 48) To see something close up, the ciliary muscles surrounding the lens are:
a) contracted b) relaxed
- b ___ 49) Which of the following is true?
a) rods are more sensitive to light and see color b) rods are more sensitive to light and see black and white
c) cones are more sensitive to light and see color d) cones are more sensitive to light and see black and white
- e ___ 50) The pit of some snakes (for example, pit vipers like rattlesnakes) detect:
a) visible light b) uv light c) radio waves d) sound e) infrared radiation

Reminders:

1) Please put your name and 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).