

Introductory Biology II
Final Exam
Summer, 2018

Name: _____

Instructions: There are 80 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 your scantron. You may keep the exam. **Good luck!**

Material covered by exam I:

- c__ 1) Blood is what kind of tissue:
a) Epithelial b) Muscular c) Connective d) Nervous
- d__ 2) An example of Connective tissue:
a) skin b) cardiac muscle c) nerve d) adipose
- d__ 3) Smooth or involuntary muscles can be found in your:
a) leg muscles b) arm muscles c) neck muscles d) gut/stomach muscles
- a__ 4) Dogs and Cats are:
a) endotherms b) paratherms c) ectotherms d) mesotherms
- c__ 5) Humans are:
a) carnivores b) herbivores c) omnivores
- b__ 6) A deficiency of vitamin C causes:
a) rickets b) scurvy c) hoof and moth disease d) malaria e) bone deformities
- a__ 7) To prevent choking, the epiglottis covers the:
a) trachea b) esophagus c) choannae d) nostrils e) mouth
- b__ 8) True or false: bile is released by the pancreas:
a) true b) false
- d__ 9) The main function of the large intestine is to:
a) absorb nutrients b) release digestive enzymes c) release water d) absorb water
- e__ 10) An animal breathing with trachea:
a) fish b) sponge c) jellyfish d) lobster e) insect
- a__ 11) Frogs have:
a) positive pressure breathing b) negative pressure breathing c) neutral pressure breathing
- b__ 12) High levels of carbon dioxide cause:
a) blood to become basic b) blood to become acidic c) neither
- b__ 13) Hemoglobin will release oxygen in areas with:
a) high oxygen b) low oxygen
- d__ 14) Each year, about how many people die as a result of smoking in the U.S.
a) 1,000 b) 10,000 c) 100,000 d) 480,000
- a__ 15) The biggest single cause of preventable deaths in the United States is:
a) smoking

- d__ 16) In a fetus, blood flows from the right atrium to the (pick *best* answer):
 a) liver b) left ventricle c) lungs d) left atrium
- c__ 17) A typical, average, **systolic** pressure is:
 a) 80 b) 100 c) 120 d) 160 e) 160,000
- d__ 18) A chemical released during an inflammatory response:
 a) pepsin b) bile c) albumin d) histamine e) anti-histamine
- a__ 19) **B-cells** mature in the:
 a) bone marrow b) thyroid c) liver d) thymus e) pineal gland
- a__ 20) True or false: cells infected with a virus identify themselves to the immune system with a self-nonsel complex:
 a) true b) false

Material covered by exam II:

- e__ 21) HIV/AIDS infects which cells:
 a) B-cells b) K-cells c) macrophages d) phagocytes e) helper T-cells
- b__ 22) Urea is used by what animal as a waste product?
 a) birds b) humans c) fresh water fish
- a__ 23) Surrounds the glomerulus:
 a) Bowman's capsule b) Loop of Henle c) proximal tubule d) distal tubule
- b__ 24) When you have too much water in your body, the collecting duct becomes:
 a) more permeable to water b) less permeable to water c) this has no effect on permeability
- e__ 25) Which is released by the **anterior** pituitary?
 a) ADH b) Melatonin c) oxytocin d) adrenalin e) ACTH
- a__ 26) Glucagon is released by the pancreas when blood sugar levels are:
 a) too low b) too high c) just right
- b__ 27) Parthenogenesis is used by some:
 a) Humans b) Lizards c) Dogs d) Primates
- b__ 28) Ovulation is caused by a surge in (pick best answer):
 a) ACTH b) LH c) progesterone d) testosterone e) TSH
- a__ 29) These cells support neurons; form part of the blood brain barrier:
 a) astrocytes b) melanocytes c) phagocytes d) myelin sheath
- b__ 30) During rest, a neuron has:
 a) more K⁺ outside b) more K⁺ inside
- a__ 31) **When at rest**, the inside of a neuron has what voltage?
 a) -70mv b) -55mv c) 0mv d) +10mv e) +35mv
- c__ 32) A really, really bad thing to give to an elephant:
 a) morphine b) heroin c) LSD d) sugar e) caffeine
- a__ 33) Equalizes the pressure between the air outside and the middle ear:
 a) eustachian tubes b) upper canal c) lower canal d) middle canal

- a ___ 34) True or false: bats can navigate in total darkness using echolocation:
a) true b) false
- c ___ 35) Controls the size of your pupils:
a) choroid b) sclera c) iris d) retina e) cornea
- a ___ 36) A tapetum is found more often in:
a) nocturnal animals b) daytime animals
- a ___ 37) True or false: muscles can only contract:
a) true b) false
- d ___ 38) Ca^{++} ions are released by the:
a) actin fibers b) myosin fibers c) sarcomeres d) sarcoplasmic reticulum
- d ___ 39) Sensory information is mapped onto which part of the brain?
a) medulla b) hypothalamus c) motor cortex d) sensory cortex
- a ___ 40) Determines how alert you are:
a) reticular formation b) limbic system c) thalamus d) superior olive

New material:

- c ___ 41) Phloem moves:
a) water upwards b) water downwards c) nutrients around the plant
- b ___ 42) Dermal tissue (in plants):
a) moves water upwards b) covers surfaces c) is responsible for storing nutrients
- b ___ 43) A plant that grows, reproduces, and dies over a two year span is a:
a) annual b) biennial c) perennial d) centennial e) monocennial
- a ___ 44) Roots get longer due to:
a) apical meristem b) vascular cambium c) cork cambium d) bark
- c ___ 45) Cork is made by the:
a) apical meristem b) vascular cambium c) cork cambium d) bark
- a ___ 46) The dark center of a tree is known as the:
a) heartwood b) middle wood c) sapwood d) Mirkwood
- b ___ 47) True or false: in order to figure out how many snakes are in the everglades, I would have to count every one:
a) True b) False
- b ___ 48) A clumped distribution pattern would be found in:
a) an Apple orchard b) a school of fish c) penguins
- b ___ 49) A population that grows rapidly, then slows and levels off is illustrated by what kind of growth model?
a) exponential b) logistic c) negative binomial d) Cauchy
- e ___ 50) Which of the following ***does not*** determine K?
a) food b) territory c) water d) nesting sites e) there are no exceptions on this list
- c ___ 51) Clams have what kind of growth curve?
a) type I b) type II c) type III d) type IV e) type V

- a__ 52) Organisms that produces lots of offspring, but do not invest a lot of resources into each offspring are said to be:
a) r - selected b) K - selected c) i - selected d) n - selected e) q - selected
- b__ 53) The main reason for human population growth is (pick *best* answer):
a) an increase in the death rate b) a decrease in the death rate c) an increase in the birth rate
d) a decrease in the birth rate
- d__ 54) The current human population is *about*:
a) 1.2 billion b) 2.6 billion c) 3.7 billion d) 7.5 billion e) 18.4 billion
- b__ 55) A country with a very fast doubling time:
a) USA b) Afghanistan c) Italy
- b__ 56) A population pyramid that is “upside down” shows a population that is:
a) increasing b) decreasing c) staying about the same d) none of the above
- a__ 57) True or False: each American (USA) uses far more resources than each person in India:
a) True b) False
- a__ 58) True or False: despite implementing a one child per family policy (until recently), China's population is still growing:
a) True b) False
- b__ 59) True or False: the only thing we need to know for biodiversity is how many species there are:
a) True b) False
- d__ 60) The barnacle example, where two species of barnacle coexisted at different heights, demonstrated:
a) a rapidly growing population b) a rapidly declining population c) predation
d) the principle of competitive exclusion e) the effects of DDT
- b__ 61) True or false: Predation always lowers the diversity of a community:
a) True b) False
- c__ 62) An example of mutualism we discussed in class:
a) lions - zebras b) sea anemones - ants c) acacias - ants d) elephants - rabbits
- a__ 63) True or false: Some pines have adapted to reproduce only after a fire:
a) True b) False
- b__ 64) A herbivore gets about what percentage of the energy in the plant it is eating?
a) 5% b) 10% c) 20% d) 30% e) 50%
- d__ 65) A biome characterized by grasslands interspersed with trees. Tropical.
a) Taiga b) Tundra c) Plains d) Savannah e) Chaparral
- b__ 66) True or false: all tropical forests are the same:
a) True b) False
- b__ 67) True or false: deserts are always dry, lifeless areas.
a) True b) False
- d__ 68) One of the most productive environments on the planet:
a) Tundra b) Arctic ice c) desert d) coral reefs

- e__ 69) Economic reasons for conserving include all of the following *except*:
 a) medicine b) food c) recreation d) clothing/shelter e) there are no exceptions on this list
- c__ 70) Protecting Mt. Sinai would be an example of what kind of reason to conserve:
 a) economic b) ecological c) spiritual
- c__ 71) If we want to conserve something like rattlesnakes we need to (pick **best** answer):
 a) convince people rattlesnakes are cute and cuddly b) set up feeding centers for rattlesnakes
 c) educate people about rattlesnakes and how they control many pest species
- c__ 72) The loss of habitat at GMU is due to:
 a) desertification b) introduced species c) urbanization d) loss of wetlands
- c__ 73) To protect elephants, Kenya had to introduce:
 a) electronic ankle bracelets for elephants b) habitat reconstruction c) helicopter gunships
 d) increased protection for rhinos e) none of the above
- b__ 74) The extinction of the passenger pigeon is due primarily to:
 a) DDT b) overexploitation c) introduced species d) environmental factors
- a__ 75) True or false: starlings have been introduced into the United States:
 a) True b) False
- d__ 76) Baby sea turtles have a hard time finding the ocean due to:
 a) air pollution b) noise pollution c) water pollution d) light pollution
- b__ 77) Global warming is caused by:
 a) acid rain b) carbon dioxide c) ozone d) DDT
- e__ 78) In order to properly protect an animal (or other organism) we need to (there are several possible answers - **pick the single best answer**):
 a) set up a reserve b) put it in a zoo c) control its predators d) provide food
 e) study the animal to know what it needs in order to survive
- d__ 79) Bald eagles and other birds of prey almost went extinct due to:
 a) acid rain b) carbon dioxide c) ozone d) DDT
- c__ 80) The side of the Nairobi National Park that opens to the Athi plains is the:
 a) north side b) east side c) south side d) west side e) actually, all sides are closed off

Reminders:

Please put your *name* on the scantron before you hand it in.

You may keep your exam.

Your score on the final should be available on blackboard by tomorrow.

Final grades will be available **only** through the PatriotWeb system (hopefully by Friday).

I hope you didn't find today too horrible. Have a great remaining summer!