General Biology 101 Lab Dr. Callyn Yorke

Sample Weekly Quiz Questions

**Excercises 1, 3, 4 & 5**

1) In the SI (Metric) system of measurement, which one of the following is the longest? **a**) **300 cm** b) 20 cm c) 0.5 m d) 1m e) 500 microns.

2) The scientific method: a) is infallible b) always supports the original hypothesis c) is no longer used by serious scientists **d) is subject to verification** e) uses only deductive reasoning.

3) In the compound microscope, the diameter field of view increases with: a) increasing illumination b) increasing magnification c) decreasing illumination d) increasing depth of field **e) decreasing magnification.**

4) The compound light microscope differs from the stereo (dissecting) microscope because the former instrument – a) uses a reflected, not transmitted light source b) magnifies only to 6.5 power c) rectifies the image so that it appears in its actual orientation. d) has a single coarse-focusing dial **e) always displays images upside down and backwards.**

5) Depth of field is significantly increased when, a) switching from the compound to the stereo microscope b) illumination increases c) magnification increases **d) magnification decreases** e) illumination decreases.

6) A fundamental difference between an ordinary animal cell and ordinary plant cell is, that in the former, a) a nucleus is present b) mitochondria are present c) mitochondria are absent d) chloroplasts are present **e) a cell wall is absent.**

7) Mitosis normally results in, a) non-identical daughter cells **b) identical daughter cells** c) genetically different cells d) identical gametes e) hybrid cells.

8) Which mitotic phase immediately follows prophase? a) telophase b) anaphase **c) metaphase** d) interphase e) blastophase.

**Exercises 6 & 7**

1) Bacteria are, a) multicellular b) always harmful to mankind c) Eukaryotic **d) without membrane bound organelles** e) exclusively anaerobic.

2) Diffusion is, a) the movement of atoms or molecules from a region of low to high concentration b) a special case of osmosis c) unrelated to osmosis d) the same as active transport in a cell membrane **e) the movement of atoms or molecules from a region of high to low concentration.**

3) *Oscillatoria* is an example of a, a) heterotrophic aquatic plant b) plant without cell walls c) plant without cell layers **d) cyanobacterium** e) aquatic flowering plant.

**Exercises 6 & 7 - continued**

4) Osmosis is, **a) diffusion of water molecules across a semi-permeable membrane** b) the movement of water molecules from low to high concentration c) unrelated to diffusion d) the movement of Potassium permanganate crystals of the same size on a Petri dish e) all of the above.

**Exercises 8 & 9**

1) *Euglena*, a) moves by cilia **b) moves by flagella** c) is parasitic d) is multicellular e) is a cyanobacterium.

2) *Amoeba*, a) moves by cilia b) moves by flagella c) is multicellular **d) moves by pseudopodia** e) is a complex alga.

3) Kelp, **a) is a complex alga** b) moves by cilia c) is primarily in fresh water d) is a type of green alga e) is unicellular

4) *Paramecium,* a) is a cyanobacterium **b) is unicellular** c) is multicellular d) moves by flagella e) is a complex alga.

**Exercises 10 & 11**

1) Mosses, **a) lack xylem and phloem** b) have non-motile sperm c) are abundant in dry environments d) are pollinated by insects e) are true vascular plants.

2) Members of the plant kingdom, a) are predominately saprotrophic b) are exclusively terrestrial c) all have true vascular tissues **d) have cellulose cell walls** e) are predominantly heterotrophic.

3) Mushrooms, a) are autotrophic b) reproduce with pollen grains **c) are predominately saprotrophic** d) require light for photosynthesis e) are classified as a subphylum of the plant kingdom.

4) Fungi, a) are exclusively asexual **b) include unicellular yeasts** c) seldom compete with bacteria d) are photosynthetic e) are closely related to plants.

**Exercises 12 & 13**

1) An example of an acoelomate worm with a flattened body is, a) *Ascaris* **b) Planaria** c) earthworm d) leech e) *Trichinella spiralis*

2) Sponges are, a) mostly freshwater b) with two tissue layers c) with multiple nematocysts **d) mostly marine**  e) unicellular.

3) Flatworms are, a) parasitic b) free-living c) unicellular **d) bilaterally symmetric**  e) harmless to humans.

4) Cnidarians include, a) unicellular corals b) three embryonic tissue layers **c) sea anemones** d) *Clonorchis sinensis* e) somemedically important parasites.

**Exercise 14**

1) Phylum Arthropoda includes all but which one of the following, **a) Gastropoda** b) Crustacea c) Arachnida d) Insecta e) Diplopoda.

2) Phylum Mollusca includes all but which one of the following, a) Bivalvia b) Cephalopoda c) Polyplacophora **d) Chilopoda** e) Chambered Nautilus.

3) The only non-vertebrate animals capable of sustained flight are, a) Crustacea b) Annelida c) Nematoda c) Platyhelminthes **e) Insecta**.

4) All Molluscs have, a) radial symmetry b) a shell **c) a mantle** d) salt water tolerance e) jointed appendages.

**Exercise 15**

1) A unique characteristic of the Phylum Echinodermata is, a) dorsal hollow nerve cord b) bilateral symmetry **c) water vascular system** d) muscles arranged in somites e) segmented appendages.

2) Echinoderms are predominantly, a) freshwater **b) marine** c) fast-moving d) protostomes e) terrestrial.

3) The Phylum Chordata includes, a) sea cucumbers **b) tunicates** c) basket stars d ) sea stars e ) all of the above.

4) Which of the following is **not** a Chordate characteristic? a) bilateral symmetry b) dorsal hollow nerve cord **c) radial symmetry** d) post anal tail e) notochord.

**Exercises 16, 17 & 18**

1) Enzymes, a) increase the energy required for chemical reactions b) are carbohydrates c) are nucleic acids **d) decrease the energy required for chemical reactions** e) are of limited use in biochemical reactions.

2) An example of an enzyme and its normal substrate is, **a) catalase and hydrogen peroxide** b) urease and catalase c) catalase and water d) urease and oxygen e) ammonia and catalase.

3) The process by which cells obtain the maximum possible energy from a molecule of glucose is called, a) photosynthesis b) excretion c) phagocytosis **d) aerobic respiration** e) anaerobic respiration.

4) An input ingredient in the summary equation of photosynthesis is, a) carbon monoxide b) nitrogen c) glycolysis d) hydrogen sulfide **e) carbon dioxide.**

**Exercises 19, 20 & 21**

1) An increase of which one of the following molecules in the blood has an immediate stimulatory effect on the breathing rate?

a) oxygen **b) carbon dioxide** c) nitrogen d) water e) glucose.

2) Which part of a plant would normally be without chlorophyll? a) leaf b) needle c) petiole **d) root** e) guard cell.

3) In vascular plants sugars are transported principally through the, **a) phloem** b) xylem c) cambium d) epidermis e) vessels and tracheids.

4) In the mammalian (four-chambered) heart, which chamber receives oxygenated blood directly from the pulmonary veins? **a) left atrium** b) left ventricle c) right atrium d) right ventricle e) alveolus.

**Exercises 22, 23 & 24**

1) In the kidney, additional materials not initially filtered by the glomerulus, may be eliminated from the blood by, a) tubular reabsorption **b) tubular secretion** c) reverse osmosis d) urination e) glomerular reabsorption.

2) The three essential processes performed by the kidneys are, a) tubular filtration, glomerular reabsorption and tubular secretion b) tubular reabsorption, glomerular filtration and glomerular secretion **c) glomerular filtration, tubular reabsorption and tubular secretion**  d) glomerular filtration, tubular filtration and tubular secretion e) tubular reabsorption, tubular filtration and urination.

3) An example of a hinged joint is, a) shoulder b) parietal and occipital bones c) cervical vertebrae **d) knee** e) wrist.

4) A simple spinal reflex arc includes which of the following components? a) receptor b) sensory neuron c) synapse d) motor neuron **e) all of these.**

**Exercises 25, 26 & 27**

1) Cardiac muscle in mammals is, a) confined to the heart b) autorythmic c) with intercalated discs d) involuntary **e) all of these.**

2) The movement of food through the digestive system of mammals is accomplished primarily by slow rythmic contractions of a) cardiac muscle **b) smooth muscle** c) skeletal muscle d) striated muscle e) appendicular muscle.

3) Cell division in all tissues except gonads produces, a) haploid daughter cells b) identical daughter cells c) non-identical daughter cells d) diploid daughter cells **e) b & d.**

4) The genetic based trait of red-green color blindness in humans is more common in males than females because, a) males have more chromosomes than females b) the gene for colorblindness is carried on the y chromosome **c) the gene for colorblindness is on the X chromosome** d) more than one of these is correct.

**Exercise #28**

1) Frogs are properly classified as, a) Echinodermata b) Mammalia c) Aves **d) Amphibia** e) Reptilia.

2) The gastrocnemius muscle in the frog is located …. a) in the upper hind limb **b) in the lower hind limb** c) adjacent to the triceps brachii d) in the upper forelimb e) in the distal forelimb.

3) The amphibian heart normally has, **a) three chambers** b) two ventricles, one atria c) two atria and two ventricles d) two atria and three ventricles e) two pulmonary aortas.

4) Frog (e.g. Rana pipiens) reproduction typically involves a) internal fertilization b) shelled eggs c) an amniotic egg **d) external fertilization** e) parental care of the eggs and young.