

LIF101: Sample Questions

- 1) Which of the following is **NOT** a component of the cell membrane of an animal cell
 - A) Glycolipid
 - B) Phospholipid
 - C) Cholesterol
 - D) Triglyceride
- 2) Which of the following properties of phospholipids is responsible for fluidity of the plasma membrane
 - A) Phospholipids in membrane have high dipole moment
 - B) Phospholipids have a polar head and two non-polar tails
 - C) Phospholipids can strongly interact with membrane proteins through hydrophobic interactions
 - D) Phospholipids have an unsaturated fatty acid tail therefore they do not pack together tightly
- 3) Which of the following does **NOT** contain any carbohydrate
 - A) Chitin present in the exoskeleton of insects
 - B) Deoxyribonucleic acid present in the nucleus of a cell
 - C) Keratin present in hair and skin
 - D) The blood group antigens displayed on the surface of red blood cells
- 4) Formation of Glycogen from Glucose is an example of the following type of metabolic reaction
 - A) Condensation
 - B) Hydrolysis
 - C) Rearrangement
 - D) Functional group transfer
- 5) Ribosomes are **NOT** found in which of the following locations in the cell
 - A) Nucleus
 - B) Mitochondria
 - C) Cytoplasm
 - D) Smooth ER
- 6) Which of the following molecules contain elements other than carbon, oxygen, hydrogen and nitrogen
 - A) Cholesterol
 - B) Chitin
 - C) RNA
 - D) Glycine
- 7) A buffer is composed of which of the following
 - A) Hydrochloric acid and its conjugate base
 - B) Sulfuric acid and its conjugate base

- C) Nitric acid and its conjugate base
D) Acetic acid and its conjugate base
- 8) A polypeptide chain in alpha-helix conformation is composed of the following amino acid sequence from the amino terminus to the carboxyl terminus: **Tyrosine-Lysine-Glutamic acid-Phenylalanine-Cysteine-Valine-Glycine-Methionine**. The oxygen of the carbonyl group of the lysine is in hydrogen bond with the hydrogen of the amino group of which amino acid
A) Phenylalanine
B) Cysteine
C) Valine
D) Glycine
- 9) Which of the following **is NOT** synthesized inside the nucleus
A) RNA
B) DNA
C) Ribosomes
D) Proteins
- 10) You have been given two light microscopes one uses red light as the source of illumination and the other one uses blue light as the source of illumination. Which of the following would be resolved with the blue light microscope but not the red light microscope.
A) DNA molecule of diameter 0.002 μm
B) A bacterial cell of diameter 1 μm
C) A bacteriophage virus 0.2 μm in size
D) A Ribosome, 0.05 μm in diameter