Quiz #2 Key – 7:45 lab

1. Define:

Osmosis – Osmosis can be defined as the movement of solvent (usually water) from an area of low solute concentration to an area of higher solute concentration across a semi-permeable membrane (one permeable to the solvent but not to the solute). Unlike diffusion, osmosis requires a membrane.

Positive chemotaxis – Positive chemotaxis is the directed movement of cells toward chemicals in their environment. Bacteria will often swim toward carbon dioxide because it is a common waste product of metabolism, thus is an indication of food being consumed.

Golgi apparatus – The golgi apparatus is a membranous organelle composed of a series of flattened sacs that appear to be stacked upon one another. The golgi is involved in storage, transport, polysaccharide synthesis, sorting, assembly of complex molecules, packaging and secretion. Membranous vesicles that pinch off the golgi can be transported to other regions of the cell, and sometimes to the cell surface.

2. Nucleotides/ Nucleotides can have additional phosphate groups bound to them, and will form high-energy compounds called nucleoside triphosphates (r-NTPs or d-NTPs). Nucleotides can be used to form coenzymes including NAD, FAD and NADP, and cyclic nucleotides can be used as regulatory molecules (c-AMP, c-GMP, etc.).

3. Amphipathic or amphiphilic/ hydrophobic

4. Integral proteins or intrinsic proteins/ facilitated diffusion

5. Water will exit the cell.

6. The same

7. Pinocytosis

8. Quorum sensing

9. Smooth endoplasmic reticulum/ ribosomes

10. Lysosomes/ contractile vacuoles

11. Mitochondria/ chloroplasts/ both contain ccc-DNA molecules and 70S ribosomes.

The most common etiological agents of pneumonia are identified as *Streptococcus pneumoniae*.