

Quiz #1 Key – All lab sections:

1. Define:

Abiogenesis – Abiogenesis (a=without, bio=life, genesis=beginning or generation of), is the belief that living organisms arise spontaneously from non-living materials. Belief in abiogenesis or spontaneous generation existed during Aristotle's lifetime (384-322 BC), but was challenged by the work of Redi, Spallanzani, Schwann, Schulz, and others. The abiogenesis of microbes was shown to be invalid by Louis Pasteur.

Koch's postulates – Koch's postulates (developed by Robert Koch) are a series of experimental steps that can be used to demonstrate the causal relationship between a specific type of microorganism and a specific disease. The steps involve finding a specific type of suspect causative agent in every case of a specific disease, isolating that organism type and growing it in pure culture, inoculating a healthy, susceptible animal with the culture, and seeing the same disease symptoms develop, and then re-isolating the same microorganism type.

Phospholipid – A phospholipid is an organic compound containing glycerol (three-carbons) bound to two fatty acid chains and a phosphate group (PO_4). The PO_4 makes one end of the phospholipid polar (hydrophilic), while the fatty acid chains are non-polar (hydrophobic); this causes phospholipids to be amphiphilic or amphipathic. Phospholipids are associated with cellular membranes where they align at the interface between water and lipid environments.

2. Van Leeuwenhoek popularized microscopy by making numerous (about 200), single-lens microscopes and demonstrating their use to other investigators. He also documented his observations of microorganisms by sending letters and illustrations to the Royal Society of London (British Royal Society).

3. Francesco Redi

4. Louis Pasteur/ vaccines (Vaccination is incorrect as it is a process, not a culture.)

5. Hand-washing/ Joseph Lister

6. Richard J. Petri

7. Alexander Fleming

8. Metabolism/ mutation

9. Water/ cations and anions

10. Hexose monosaccharide/ polysaccharide

11. Amino acids/ polypeptide

12. Triglyceride

The etiological agents of cholera are identified as *Vibrio cholerae*.