

BIO503 MCQs Mids. & Final 2018

Objective Part:

1. **MRI** scanners use strong magnetic fields, electric field gradients, and radio waves to generate images of the organs in the body
2. The **LDF** is named after the German-American physicist **Fritz London**
3. The scientific study of the motion of fluids, especially non-compressible liquids, under the influence of internal and external forces. **Hydrodynamics**
4. **Electrophysiology** is the study of the electrical nature of tissues and cells.
5. Non polar covalent compounds like methane and nitrogen only have **London dispersion forces between** molecules.
6. biophysicists discovered the DNA double helix **1953**
7. Ion-Dipole Forces. An ion-dipole force is an attractive force that results from the electrostatic attraction between an ion and a **neutral molecule** that has a dipole.
8. The **fluid mosaic model** describes the structure of the plasma membrane as a **mosaic** of components including phospholipids, cholesterol, proteins, and carbohydrates—that gives the membrane a **fluid** character.
9. What makes the molecules attracted to one another? **Intermolecular force**
10. The **London dispersion forces** are the weakest intermolecular forces
11. Physics provides the fundamental theories for understanding **biomolecules**
12. Atomic Force Microscopy measure the **mechanical** properties of living material (such as tissue or cells)
13. The average bond-energy for O-H bonds in water is **463** kJ/mol.
14. The Society publishes the **Biophysical journal** **twice** monthly
15. **Metallic** bonding are the force of attraction between **valence** electrons and the metal atoms
16. The energy required to break a bond is called the **bond-energy**
17. The **American Biophysics Society** was founded **1957**
18. **Membrane biophysics** is the study of the physical principles governing biological membranes, including lipid-raft formation and protein–lipid coupling
19. **Ionic bonding** is a type of chemical **bond** that involves the electrostatic attraction between **oppositely** charged **ions**
20. Without **hydrogen bonding**, earth would have no water cycle, no ocean, no floating ice, no life as we know it
21. The term **biophysics** was originally introduced by **Karl Pearson** in **1892**
22. Adenine and guanine are **purines**, meaning that their structures contain two fused carbon-nitrogen rings.
23. **Electrophysiology study** (EP Test) is used Study abnormal heart rhythms (arrhythmia).
24. Biophysics discovers how atoms are arranged to work in **DNA and protein**

BIO503 solved OBJ CURRENT papers for midterm by vu medical zone

25. **vapor pressure** is defined as the pressure exerted by a vapor in thermodynamic equilibrium with its condensed phases (solid or liquid) at a given temperature in a closed system
26. The law which deal with the thermodynamic and establish a concept of temperature is known as **zeroth law of thermodynamics.**
27. 1840 relationship between the heat and work is established by **J.Joule**
28. A calorimeter is a device for **measuring heat transfer**
29. Which kind of energy is related stored energy in an object of system? **Potential**
30. The SI unit of pressure is **pascal**
31. Measure of degree of Disorder or randomness in a molecular system is called **ENTROPY**
32. The law of conservation of energy is **First law of thermodynamics**
33. **Salting out** is the purification method that utilizes the reduced solubility of certain molecules in a solution of very ionic strength.
34. RIA stands for **Radio immunoassay**
35. Lysozyme is an enzyme which is used during purification of DNA or protein for **Cell lysis**
36. **Two dimensional electrophoresis** is widely used method for the analysis and detection of proteins.
37. Protein can be visualized by **immunoblotting** technique.
38. Melting of ice involves change in **molecular interaction**
39. During affinity chromatography, composition of mobile phase is change for the **elution** of product.
40. Ninhydrin can react with **alpha amino acids** and give purple colored product.
41. **Dialysis tubing** is made of cellulose or cellulose ester.
42. The inverse of association constant is called **dissociation constant**
43. Centrifugation is one of the simplest process for the **fractionation** of protein molecule.
44. **Lyophilization** is a process in which water is removed from a product after it is frozen and placed under a vacuum, allowing the ice to change directly from solid to vapor
45. **Chromatography** is an analytical method which involves mobile and stationary phase.

