



MBBS FIRST PROFESSIONAL (PART-I)
MODEL QUESTIONS FOR ANNUAL 2009

Biochemistry
(Multiple Choice Questions)

- Q.1. At pH 7.4 of plasma, the ratio of $[\text{HCO}_3^-]$ to $[\text{H}_2\text{CO}_3]$ would be:**
- 7:4.
 - 20:1.
 - 10:1.
 - 30:1.
 - 1:20.
- Q.2. If the H^+ concentration of solution is 10^{-3} , the pH is equal to:**
- 3.
 - 1.3.
 - 3.1.
 - 3.
 - 7.4.
- Q.3. An easy way to identify sucrose among other sugars is to use the Benedict's test for reducing sugars. As the first carbon of glucose and the second of fructose are locked together in the sucrose molecule no carbon is easily oxidized and the Benedict's test is negative. Starch contains a great deal of glucose but gives a negative Benedict's test because:**
- The molecular weight of starch is too high for it to dissolve.
 - The starch molecules are so long that they resist attack by oxidizing agents.
 - Each starch molecule has only one free aldehyde carbon available for oxidation and the resultant reaction is too slight to be observed.
 - The starch in animal cells is present in small granules packed together like grapes.
 - The chemistry rules do not allow starch to react with oxidizing agents.
- Q.4. Cofactors are sometimes described as being heat stable and non-dialyzable. This means that they can be heated without losing activity, but cannot be dialyzed without losing activity. Because of this we know that cofactors:**
- Are large protein molecules.
 - Are large non-protein molecules.
 - Are neither proteins nor large in size.
 - Are very small protein molecules.
 - Are always metallic ions.
- Q.5. Gastric carcinoma can be treated by total gastrectomy. However, this treatment would require routine follow up injections of:**
- Biotin.
 - Vitamin C.
 - Vitamin B_6 .
 - Vitamin B_{12} .
 - Folic acid.

- Q.6. A 7 year old girl presents with scaly dermatitis, sparse hair and a non healing ulcer on her foot. After ruling out the other causes, the physicians makes a provisional diagnosis of essential fatty acid deficiency in the child, the test he is going to order to confirm his diagnosis, is most likely:**
- a) Serum LDL cholesterol.
 - b) Serum total cholesterol.
 - c) Triene/ tetraene ratio.
 - d) Fasting lipid profile.
 - e) Saturated/ unsaturated fat ratio.
- Q.7. The diabetics should consume a diet low in carbohydrates, having moderate amount of fat and rich in proteins. Despite their impaired carbohydrate metabolism and deficient insulin, why are carbohydrates still included in their diet:**
- a) Carbohydrates have high glycemic index.
 - b) Carbohydrates have low glycemic index.
 - c) Carbohydrates are essential for life.
 - d) Carbohydrates are protein sparing.
 - e) Carbohydrates are digested easily.