

本試題是否可以使用計算機: 可使用, 不可使用 (請命題老師勾選)

1. The triplet code in DNA for the amino acid histidine is G-T-A. Predict the mRNA codon for this amino acid and the tRNA anticodon. (20%)
2. Given the following solutions, which has the highest water concentration? Which two have the same osmolarity? (20%)

Solution	Concentration, mM			
	Glucose	Urea	NaCl	CaCl ₂
A	20	30	150	10
B	10	100	20	50
C	100	200	10	20
D	30	10	60	100

3. What is the molar concentration of 40 g of glucose dissolved in sufficient water to make 2 liters of solution? (20%)
4. Where are the enzymes for the Krebs cycle located? The enzymes of oxidative phosphorylation? The enzymes for glycolysis? (20%)
5. In one type of diabetes, the plasma concentration of the hormone insulin is normal, but the response of the cells to which insulin usually binds is markedly decreased. Suggest possibilities for this in terms of the properties of protein binding sites. (20%)