Group A

1. What are the fates of base substitution mutation?
2. Describe the effects of intron phase on alternative splicing with diagram.
3. How can you identify the start codon in the mRNA sequence? (refer to the last week's lecture)
4. Describe the consequences of frame shift mutation.
5. What type of mutation is sickle cell anemia? Explain the molecular basis of sickle cell anemia.
6. What is open reading frame? How frame shift mutation can be happened? Explain with example.
7. Two major types of mutations are gene mutation and chromosome mutation. Which mutation is more lethal and why?
8. If you want to multiply the number of a target gene, what process you will do? Explain the process in detail.
9. Write the functions of UTR of mRNA.

Group B

1. Why Phosphate bond is important in DNA or RNA structure?
2. Why G-C forms three hydrogen bonds while A-T forms only two?
3. Briefly explain the importance of poly A tail of mRNA.
4. What is nonsense mutation? Describe with an example.
5. Write the importance of polypeptide bond.
6. Is this possible to create a DNA sequence from an RNA and how?
7. Which gene mutation is much severe and why?
8. What are the possible outcome of Chromosome mutation?
9. Define the domain and motif of protein. Why they are required?