

I. 簡答題 (每題 3 分; 共 30 分):

1. Ketone bodies
2. Pyruvate carboxylase reaction
3. Cori cycle
4. Bohr effect
5. Anaplerotic reaction
6. RNA editing
7. Non-coding RNA
8. CpG islands
9. Transcriptome
10. Real-time PCR

II. 問答題 (每題 10 分; 共 70 分):

1. Please compare the difference between TCA cycle and glyoxylate cycle.
2. Please explain the light reaction and dark reaction for photosynthesis.
3. Please explain the melting temperature of DNA strands and its affected factors.
4. Please compare the genomic DNA and cDNA and design an experiment to distinguish them.
5. Please list the procedure for gene cloning.
6. Please compare the difference between yeast artificial chromosome (YAC) and bacterial artificial chromosome (BAC).
7. Please provide the definition of operon and give an example to explain it.