

※ 考生請注意：本試題 可 不可 使用計算機

1. Please explain what Southern blotting (10 %), Northern blotting (10 %), and Western blotting (10 %) are, including their scientific basis, reagents required, and, briefly, the procedures involved.
2. What is the nature of the cell membrane? Why can the cell membrane serve to isolate intracellular cytosol from the outside environment, and still remain some permeability? (20 %)
3. Please explain the roles of either promoters (10 %), or enhancers (10%) in regulation of gene expression.
4. Extracellular hormones or effectors often require binding to cell surface receptors and eliciting a cascade of intracellular signaling events to regulate different biological activities. Why are cell surface receptors required? (10%) What are the benefits to transduce signals in multiple events? (10 %) How can the numbers of the cell surface receptors be measured? (10 %)