

※ 注意：作答時，請於答案卷上標明作答之大題及其題號。

I. Distinguish between the followings: (6 % each)

1. sterilization and pasteurization
2. photoautotroph and chemoorganotroph
3. group translocation system and passive transport
4. type II hypersensitivity and type IV hypersensitivity
5. epitope and hapten
6. virulent phage and temperate phage

II. Answer the following questions (8 % each)

1. How do you classify bacteria based on the morphological, biochemical and genetic methods? Please give two examples for each method.
2. Why must an anaerobic bacterium grow in the absence of oxygen? How do you prepare a condition to grow these anaerobes?
3. Name any four structures of a prokaryotic cell and provide a brief description of the functions of each.
4. What do bacteria (or eubacteria) and archaea have in common? How are they different?
5. Describe how interferon confers a protective role to mammalian cell against viral attack.
6. Draw a bacteriophage T<sub>4</sub> and label all its identifiable parts.
7. Describe a model to show how an exotoxin gets into a cell.
8. Describe procedures of the Ames test.