

2003 NTU MICROBIOLOGY EXAM QUESTIONS

Dear Students: Please **answer your questions in the following orders** and control your time to answer all questions very well. Good Luck to you.

1. What are the **events and possible steps that microbes immediately enter the host**? Please use **one bacteria and one virus** as your examples. (10 points)
2. What are **three examples of respiratory RNA viruses that are very important to international health**. Please write down: (1) the name of these three viruses, (2) their **nature of RNA genome**, and (3) **important biologic properties contributing to high morbidity and mortality**. (15 points)
3. What are **two most important "microbiologic characteristics in general" that a microorganism becomes a winner in any individual host**? (10 points)
4. Pandemics of cholera had been spread to many countries. Please describe the **bacteria of cholera, its toxin, and pathogenesis mechanism**. How is cholera toxin different from anthrax toxin? (15 points)
5. Please give us **three examples (one for Gram-positive bacteria, one for Gram-negative bacteria and one for virus) that their microbial strategies are capable to defend against host immune responses**. (15 points)
6. **Zoonosis** is a major public health problem for **newly emerging infectious diseases**. Please use **two examples (one related to vector-borne disease and another non-vector borne disease)** to describe the microbes that cause important epidemics in recent 10 years (10 points).
7. When an **epidemic of SARS (severe acute respiratory syndrome)** due to unknown etiology occurs, what are your **best approaches and thinking steps to find the causing agent**? How are you going to **do in your experimental methods to avoid wrong conclusion in the front of public media**? (15 points).
8. What are **"transposons"** and how important their roles in public health? (10 points)