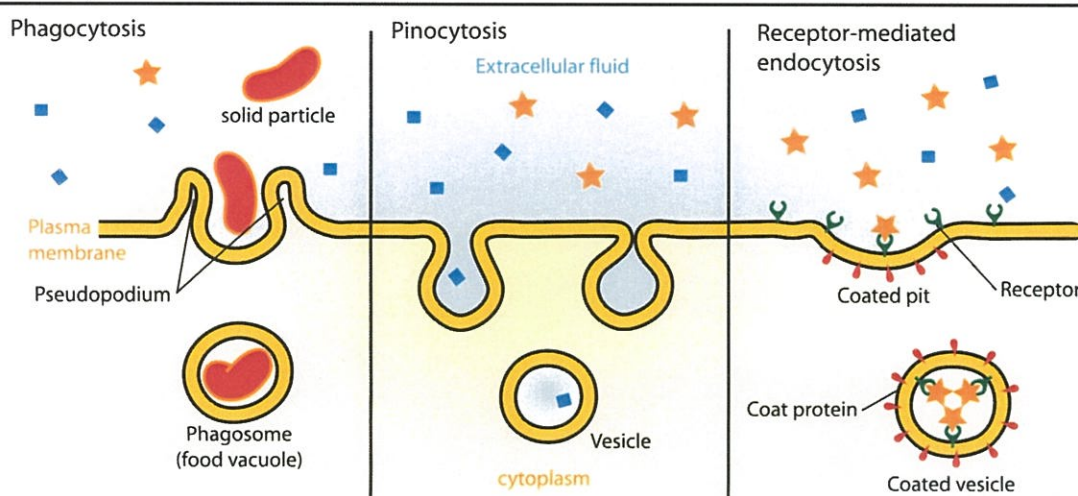


1. Cell polarity is one of the most important characteristics for epithelium physiology; to maintain normal structure and cellular physiology of the epithelium, cytoskeleton is the key component, please briefly describe the following questions:
  - 1-1: What are the major types of cytoskeleton in a regular epithelium? (9 分)
  - 1-2: Describe the cellular distributions of those cytoskeleton? (9 分)
  - 1-3: Describe the major functions of each types of cytoskeleton (12 分)
2. Endocytosis is essential for cells to maintain the homeostasis of regular physiology, three major types of endocytosis is showed below

**Endocytosis**



- Please define and describes the differences between these three endocytotic pathways (15 分)
3. Mitochondria is the powerhouse of the cell, it generates ATP as energy source via cellular respiratory chain reaction. Please briefly describe the 4 major steps of cellular respiration and the accompany side effect of this cellular respiratory chain reaction (20 分)
  4. What is lipid raft (membrane raft)? Please also describe the major composition and function of lipid raft. (15 分)
  5. SNARE proteins are known to be important for intracellular membrane fusion process, please describe “step-by-step” the process for “forward” intracellular vesicle trafficking from ER toward cell surface (components to choose from: Sar1, dynamin, ARF, SNARE proteins, Sec protein complexes, AP2 complexes, clathrin, transferrin receptor) (20 分)

試題隨卷繳回