



1- Eukaryotic and Prokaryotic cells:-

(nucleus – cell size – enclosed organelles – flagella – cell wall – chromosomes - plasma membrane – cell division – sexual reproduction).

2- Plant viruses:-

(viruses structure and characters – types and shapes of viruses – how viruses can infect the host cell – life cycle of some viruses)

3- Bacteria:-

(structure and characters of bacterial cells - types and shapes of bacterial cells – classification of different types of bacterial cells – methods of exchanging genetic information between bacterial cells - methods of bacterial cells division – benefits and harmful effects caused by bacterial cells in nature).

4- Fungi:-

(structure and characters of fungi - classification of different types of fungi – some lifestyles of fungal cells in environment - methods of fungal cells division – benefits and harmful effects caused by fungi in environment).

5- Algae:-

(structure and characters of algae - classification of different types of algae – lifestyles of some algal cells in environment - methods of algae in division – benefits and harmful effects caused by algae in environment).

6- Microbial growth:-

(difference between growth and division – types of microbial growth curves for different organisms – different stages of microbial growth curves and developments with time).

7- Factors Affecting Microbial Growth:-

(the effect of some factors on microbial growth - Physical factors include (pH, Temperature, Oxygen concentration, Moisture, Hydrostatic pressure, Osmotic pressure and Radiation - Nutritional (biochemical) factors including availability of (carbon, nitrogen, sulfur, phosphorus, trace elements and in some cases, vitamins).

٨- العوامل المؤثرة على نمو الميكروبات:-

(تأثير بعض العوامل مثل العوامل البيئية كالحرارة والرطوبة والحموضة وغيرها - العوامل الغذائية - العوامل الكيميائية – و كيفية قياس النمو سواء مباشر أو غير مباشر).