

# Microbiology I

## Lab3 :- Culture media

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### **Lab/3:-Culture media**

The survival and growth of microorganisms depend on available nutrients and a favorable growth environment. These environments contain energy source, fundamental units & necessary contents for built and conformation the cell compartments, these fundamental units are the sources of carbon (C) & Nitrogen (N) the materials that all the microorganisms that need them, and these culture media contain high percentage of H<sub>2</sub>O & other metals such as : Cu , Zn , metallic salts sometimes vitamins and gases such as O<sub>2</sub> . The culture media differ depending on microbes needing to nutrition.

**The media divided to three types depending on their contents:-**

**1-Natural media:** contain natural materials such as meat extract & peptone. used for growth large numbers of microorganisms.

**2-Synthetic media :** organic & non organic chemicals inter in the its conformation.

**3-semi synthetic media :** contain nature & chemical materials most of culture media due to this type of culture media, while the media can be divided to three types depending on physical state:

**a-Liquid culture media**

**b-Semi solid culture media**

**c-Solid culture media**

**d-Culture media packaging**

**4-Liquid culture media (broth) :-** )The liquid culture media package before sterilization in test tubes , small flasks, screw capped bottles.

**5-solid culture media (agar) :-** The solid culture media package in the tubes for getting of deep agar slob before sterilization , while distribution of agar in the petri dishes after sterilization with (pour plate method).

## **Inoculation of Media:**

The word of culture is called of inoculation the microorganism in culture media. There are two terms must be know : the( pure culture) : is the culture that have one species of microbes while (mixed culture ) it contain two or more species of microorganisms.

### **1-Streak plate technique**

#### **Spreading methods**

This method using with diluting series of culture and using of L-shaped glass rod.

### **2-Pour plate Technique**

The original sample is diluted several times to reduce the microbial population sufficiently to obtain separate colonies upon plating this method using for microorganisms count.

#### **Stapping method**

**Note:-** The liquid media inoculating with loop while slant agar or slob agar in the tube can be inculcated with streaking on the surface of slob agar.