

**Ministry of Higher Education
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University of Ishik
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Department of Biology**



**Practical Microbiology
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QUIZ

- **Fill The blanks**

- **1-**..... the medicine like substance that is used in human and animals to protect them from germs or kill the existing microorganisms in their body.
- **2-Sterilization(orsterilization)** refers to any process that,,or all forms of life
- **3-Cocci** may occur in pairs (.....),in four (tetrad) ,clusters (.....), in chain (Streptococci)

WHAT IS CULTURE MEDIA ??

- The food material or substances required for growing microorganisms in vitro (outside the body) is called culture media



USES OF CULTURE MEDIA

Its important to grow microorganisms outside the body for the following purposes :-

- To identify the cause of infection from the clinical sample , so the proper treatment can be given
- To study the characteristics or properties of microorganisms
- To prepare biological products like vaccines,toxoids,antigens...etc

COMPOSITION OF CULTURE MEDIA

- Water
- Energy source
- Carbon source
- Nitrogen source
- Mineral salts
- Special growth factors



TYPES OF CULTURE MEDIA

1-CLASSIFICATION BASED ON PHYSICAL STATE

- Solid media
- Liquid media
- Semi-solid media



CLASSIFICATION BASED ON THE INGREDIENTS

- Simple media
- Complex media
- Synthetic or defined media
- Special media



CLASSIFICATION BASED ON PHYSICAL STATE

Solid media

-Agar is the most commonly used as a solidifying agent

What is agar ??

- Golden-yellow granular powder.
- prepared from seaweeds
- Not affected by the growth of bacteria
- Melt at 98 °C & sets at 42 °C



SEMI-SOLID MEDIA

-Such media are soft and are useful in demonstrating bacterial motility and separating motile from non-motile strains



LIQUID MEDIA

-Are sometimes referred as broth bacteria grow uniformly producing general turbidity
e.g. Nutrient broth



SPECIAL MEDIA

-Enriched media (Blood agar, Chocolate agar)

Enriched media contain the nutrients required to support the growth of a wide variety of organisms

-Selective media (Thayer Martin Medium selective for *Neisseria gonorrhoea*)

Selective media are used for the growth of only selected microorganisms.

-Differential media (MacConkey media)

Differential or indicator media distinguish one microorganism type from another growing on the same medium

-Transport media (Stuarts media)

-Anaerobic media (Thioglycolate broth medium)

Preparation

- Wash hands & wear gloves
- Sterilize all equipments
- Pour D/W in glassware (required amount)
- Add powder ingredients (required amount)
- Heat to dissolve completely
- Autoclave
- Dispense the medium into tubes ,bottles &plates
- Store at required temperature
- Sterilizing Culture Media



ANY QUESTIONS ????????????