Benha university

Faculty of science

Botany department

General microbiology

(Answer of questions)

A- Sterlization .

B- Disinfection .

C- Decontamination .

D- Denaturation .

E- Bacteria .

F- Capsules .

G- autotrophs .

H- heterotrophs .

I- Algae .

J- Fungi .

K- Thallus .

L - spores .

M- Organic compounds, saprophytes,decomposition, pathogenic .

N- Yeast, budding .

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2)

1- Transfer on fresh media : microbial cultures can be maintained by periodic transfers on fresh,sterile media in tubes . the frequency of transfer varies with the organisms . for example a culture of *E.coli* needs to be transferred at monthly intervals .

B) Overlaying with mineral oil : many bacteria and fungi can be preserved by converting the fresh growth in agar slants with steril oil . the oil must be above the tip of slanted surface . cultures are stored

at 0-5 C

C) storage in silica gel : both bacteria and yeast can be stored in silica gel powder at low temperature. finely powdered , heat sterlized and cooled silica powder is mixed with a thick suspensions of cells , mixed and stored at low temperature .

2) water boils at a higher temperature under pressure it is possible to raise the boiling point of water above 100 C and this can be accomplished in an autoclave.hot steam is amore efficient sterilizing agent since it first dydrates the cells and then coagulates the proteins. After approprtiate temperature is reached the material is held for a short period 10-30 minutes .

3) A- binary fission in which a single cell divides after developing a transverse septum .

B) Budding : some bacteria reproduce by budding in which a small bud develops at one end of the cell , this enlarges amd develops into a new cell which separates from the parent .

C)Fragmentation :Fragmentation of the filaments into small bacillary or coccoid cells , each of which gives rise to new growth .

D) formation of conidiospores : *Streptomyces* produce many spores by developing crosswalls at the hyphal tips , each spore gives rise to a new organism .

4) A- provide protection against temporary drying by binding water molecules .

B- They may block attachment of bacteriophage .

C- They inhibit the engulfment of pothogenic bacteria by white blood cells .

D- They may promote attachment of bacteria to surfaces .

E- they promote the stability of bacterial suspension by preventing the cells from aggergating and settling out .

4) Monotrichous , Lophotrichous .

Amphitrichous , Peritrichous .