Paper medical microbiology

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Q#1: explain structure of bacteria in detail? Xalso explain some cell organelles of bacterial cell and its functions.

ANS: bacterial cell structure:

They are unrelated to human being as living can be but bacteria are essential to human life on planet earth .

Although they are notorious for their role in causing human disease from tooth decay to black plague .there are beneficial species that are essential to good health.

For example: one species that lives symbiotically in large intestine manufacture vitamin k as essential blood clutting factor.

1: capsule: some species of have third protective covering a capsule is made of polysachride (complex carbohydrate) capsule play a number of rule but the most important are to keep the bacteria from drying out and to protect it from phagocytosis by large microorganism .

2: cell envelop: the cell envelop is made of two or three layers .the anterior cytoplasmic membrane the cell wall and some species of bacteria an outer capsule .

3: cell wall: each bacterium is enclosed by rigid compose of peptog

Lycan a protein .

Sugar(polysachride) molecule the wall give the cell its .

Cell organelles;

1)nucleus

2)ribosome

3)endoplasmic reticulum

4)galgi apparatus

5) Choloroplast

6)mitochondria

Function

1: Ribosome :Site of translation .

2: Nucleus : maintain integrity of the cell by facilitating transcription and replication process .

3: Endoplasmic reticulum : lipid and protein synthesis .

4: Galgi apparatus: secretion and intracellular transport .

5: Chloroplast : observe sunlight use

Q2: what is the bacteria culture media? write down some bacteria culture media in detail

Ans : bacteria culture media :it is a growth medium grow outside the body under laboratory condition.

TYPES OF BACTERIA CULTURE MEDIA:

1. Basal media : pre-made no further adding substance/additive

Exe. nutrient agar media

We take nutrient and put ager they become solidyfing.

1. Enriched media: those media in which we add further more component from outside.

Blood ,egg ,serum.

Streptococci grow on blood due to hemolysis in our blood.

1. Selective bacterial media : those type of media in which we add basic/particular micro organism to discourage the non –required micro eg: egg saline media .

Q3 :what is the difference between sterilization and disinfection? Write down some method use for sterilization ?

Ans: disinfection: ( the removal of bacteria nor killing)

The process of cleaning something especially with the chemical in order to destroy .

Decontamination \_ removal of micro organisms contaminating an object .

Sterilization : destruction of all from of life ,includinge the bacteria spores,viruses and prions .

The process of killing or removing bacteria and all other forms of living microorganisms and there spares from preparation .

METHOD OF USED FOR STERILIZATION :

1. Physical method: sunlight ,drying ,dry heat ,moist ,heat ,radiation ,ultersound ,and sonic vibration .
2. Chemical method: alcohol ,aldehyde ,dyes ,halogens ,phenols , surface active agenic ,and metallic salt gases .
3. Mechanical method : pass through bacteria \_proof filter

Particulate filter

Microbial filter

Final filter .

Q4:write note the structure of fungi in detail ?

ANS: GENERALS PROPERTIES :

1)have ergesterol in their membrane possess 80’s ribosome .

2) fungi are osmototropic they maintain their nutrient by obsorption .

3) all fungi required water and oxygen and there are no biological anaerobes .

4) food storage in the form of lipids and glycogen .

CLASSIFICATION OF FUNGI :

1) zygomycetes .

2) asomycets

BASED ON MORPHOLOGY

1. Moulds : filamentous fungi

e.g asperigillus sps

2) yeasts : single cell called that buds

e.g: cryptococus neuformans .

3)yeasts like : similar to yeast but produce psedohypae

e.g candida albicans

4) diomorpic : fungi exist into two different morphological form at two different environment condition .

They exist as yeasts in tissue in vitro at 370 and as moulds in their natural habitate and vitro at room temperature .

Q5:what are few hospital based infection that can be transfer to other due to unhygienic condition explain with examples ?

ANS: PNEUMONIA :

e.g ventilator associated pneumonia .

2) HBSAG

During tooth filling or RCT due to secondary non sterilized use of material

E.g due to non sterilized (spor former bacteria )

3:)BLOOD STREAM INFECTION :

e.g from infected vascular catheter

E.g may be secondary due to local infection in another organ (E.coli infection of urinary track )

4 ) SURGICAL SITE INFECTION;

e.g;endogenous or exogenous microorganism.