Name WAQAS ahmad

I.D No 16008

Dept . B.S (MLT)

Paper . Basic Microbiology

Submit .To Zaheer sb

Section (B)

Question no 1 ..

Fill in the blanks

**1)** Algae are living thing which individually are too small too be seen with naked eye..

**2)** The scientific study of algae is called Phycology .

**3)** Disease causes living organism are known as Pathogen .

**4)** Ribosome cell organelle is present both in prokaryote and eukaryote cell .

**5)** The power house of cell is known as Mitochondria .

**6)** Conjugation is the most common mothed of asexual reproduction in microbes .

**7)** Log period of bacterial growth is also known as Exponential .

**8)**  **Log phase** of microbial growth is metabolically active and is for industrial purpose .

**9)** shrinking of cells plasma membrane caused by osmotic loss of water is called Plasmolysis.

**10)** For synthesis of cellular material nitrogen and sulfur is needed for Protein synthesis .

.

Question no 2 .

**ANSWERS**

1) MITOCHONDRIA

\* It is a double membrane structure .

\* Present in both cell and plant .

\* It make ATP energy from cellular respiration .

\* Sugar + o2 -> ATP .

\* Fuels the work of life .

\* Other function of mitochondria include storage of calcium .

And detoxifaction of ammonia in liver .

2) NUCLEUS

**Structure**

The nucleus is a sphere that contains another sphere is called a

Nucleus .the nucleus (pl .nuclei ;fromlatinnucleus or nucleolus ,meaning Kernel

Or seed) is a membrane bound organelle found in eukaryotic cells. Eukaryotes

Usually have a single nucleus .

3) BUDDING

Budding is a type of asexual reproduction in which a new organism develops from an

Out growth or bud due to cell division at one particular site. the small bulb like

Projection coming out from the yeast cell is called a bud . Since the reproduction

Is asexual , the newly created organism is a clone and expecting mutations is genetically

Identical to the parent organism .

4) CULTURE MEDIA

Culture medium is a solid, liquid or semi, solid designed to support the growth

Of micro organisms or cells,[1] or small plants like the moss physcomitrella

patens. [2] Different type of media are used for growing different types of

cells. [3] The two major types of growth media are those used for cell culture

which use specific cell types derived from plant or animal and microbiological

culture which are used for growing microorganism such as bacteria and fungi .

5) GROWTH FACTOR

Some bacteria require certain organic compound in minute quantites

Growth factor or bacterial vitamins it can be

\*  **ESSENTIAL**

When growth does not occur in their absence .

**ACCESSORY**

When they enhance growth without being absolutely

Necessary for it.

Question no 3

BACTERIAL GROWTH

**Defnition**

Bacterial growth is proliferation of bacterium into two

Daughter cell in a process called binary fission

Different phases are following

1) LAG PHASE

During lag phase bacteria adapt themselves to growth conditions .

It is the period where the individual bacteria are maturing and not yet able to

divide.

2) LOG PHASE

The log phase (sometimes called the logarthimic phase or the exponential phase)

Is a period characterized by cell doubling .

3) STATIONARY PHASE

Is often due to a growth limiting factor such as the depletion of an essential

Nutrient and the formation of an inhibitory product such as an organic acid .

4) DEATH PHASE

At the death phase (decline phase) bacteria die .this could be caused by lack of

Nutrients enivormental temperature above or below the tolerance band for the

Species or other injurious condition .