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 .