

Course Title:- **Basic microbiology**

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Q 01:- fill in the blanks.

1. **Humen egg cell** are living which individually are too small to be sen with naked eye.
2. The scientific study of Algea is called **phycology** .
3. Diseases causing living organism are known as **Microorganism**.
4. **Ribosomes** cell organelle is present both in eukaryatic and prokaryotic cells.
5. The power house of the cell is known as **mitochondria**.
6. **Binary fission** is the most common method of asexull reproduction in microbes.
7. Log period of bacterial growth is also known as **logarithimic**.
8. **Log** phase of microbial growth is metabolically active and is for industrial purposes.
9. Shrinkage of cell plasma membrane caused by osmotic loss of water is called **plasmolysis**.
10. For synthesis of cellular material nitrogen and sulfur is need for **protein** and **oil** synthesis.

Q O2 :-> write short notes on the following.

Q NO 1:- What is nucleus?

ANS:- Nucleus is the most important organelle in eukaryatic cells.it control all the activities of cells. The terms nucleus was coined by robbert brown in 1831.necelus is double membrane dense protoplasmic body. The chrosomes and DNA present in nucleus in eukaryatic cells but prokaryotic cells it present in nucleolus.

Q NO 2:- What is mitochondria?

ANS :- Mitochondria is the power house of the eukaryotic cells but in prokaryotic cells in mesosome. It is double membrane bounded organelle inside the mitochondria occur krebs cycle and electron transport chain to produce ATP. The liquid which is present in mitochondria is mitochondrial matrix.

Q NO 3:- What is budding?

ANS:- Budding is a process when there is an out growth and eventually separates the nucleus.

EXAMPLE:- yeast budding is one type of asexual reproduction. Which involves single parent in giving rise to off springs. Some animal such as hydra and sea anemone reproduce by forming buds. Budding can be observed in yeast.

Q NO 4:- What is culture media?

ANS:- culture media is a special medium used in microbiological laboratories to grow different kinds of microorganisms. A growth or a culture media is composed of different nutrients that essential for microbial growth is composed of brown jelly like substances known as agar.

Q NO 5:- What is growth factor?

ANS:- A growth factor is a naturally occurring substance capable of stimulating cellular growth, proliferation, healing and cellular differentiation. Usually it is a protein or a steroid hormone. Growth factors are important for regulating variety of cellular process.

Q NO 3:- What is bacterial growth? Discuss different phases of bacterial growth.

ANS:- bacterial growth:- bacterial growth is proliferation bacterium into two daughter cells, in a process called binary fission. Providing no events occurs the resulting daughter cells are genetically identical to the original cell. hence bacterial growth occurs both daughter cells from the division do not necessarily survive.

Different phases:-> There are four different phases of bacterial growth.

Lag phase :-> bacteria adopt themselves to growth condition.it is the period are maturing and not yet able to divide during the log phase of the bacterial growth cycle synthesis of RNA enzymes and other molecules occurs.

Log phase:-> The number of bacterial cells double and a constant exponential rate.

Stationary phase:-> population growth level off as the rate off cell death equal the rate of cell division.

Death or decline phase:-> Exponential decrease in number of living bacterial cells.