

Question Bank / General Microbiology

Q. Choose the correct answer:

1. demonstrated that the fermentation of food is caused by the growth of microorganisms.

Louis Pasteur – Robert Hooke – Christian Ehrenberg – Paul Ehrlich

2. Psychrophiles

can grow at temperature of 55°C or higher – grow well at 0°C –

grow best at a pH above 8.5 – grow best at a pH range of (5.5 – 8).

3. Bacteria lack a true nucleus; instead, have a region called

Nucleoid – Plasmid – Nucleus – Nucleic acid

4. The only type can use CO₂ as their source of carbon by photosynthesis is called

Heterotroph – Lithotrophs – Organotrophes – Autotroph

5. is both a curved rod and a coccoid shape

Coccobacilli – Pleomorphic – Vibrio – Sarcinae

6. Almost all human pathogens are

mesophiles – acidophiles – thermophiles – psychrophiles

7. The kingdom of unicellular eukaryotic microorganisms is

Protista – Archaea – Monera – Fungi

8. The following type of bacterial arrangement is called

Streptococci – Tetrads – Sarcinae – Staphylococci



Q. What are the functions of the following:

Ribosomes

Storage bodies

Cell membrane

Q. Choose the correct answer :

Robert Hooke – Christian Ehrenberg – Paul Ehrlich – Van Leeuwenhoek –

Fleming - Louis Pasteur - Aristotle

1. Introduced the name (bacterium) in 1838
2. Disproved Spontaneous generation (Abiogenesis)
3. Discovered fungi produced penicillin
4. Developed the first antibiotic
5. Believed that living organisms could develop from non-living materials
6. The first person used a microscope for academic study
7. The father of Microbiology

Q. Define the following:

1. Cell cytoplasm
2. Nucleoid
3. Sex pili
4. Flagella

Q. Draw and label structure of flagellum.

Q. Write the differences between Archaea and Bacteria.

Q. Classify bacteria according to nutrient source

Q. What are the functions of the following ?

1. Cell wall
2. Ribosomes
3. Cell membrane
4. Attachment pili

Q. Write the of basic characteristics of bacteria.

Q. Draw and label Growth Curve of bacteria.

Q. Write the differences between the cell wall of Gram +ve and Gram -ve bacteria.

Q. Choose the correct answer:

1. demonstrated that the fermentation of food is caused by the growth of microorganisms.

Louis Pasteur – Robert Hooke – Christian Ehrenberg – Paul Ehrlich

2. Psychrophiles

can grow at temperature of 55°C or higher – grow well at 0°C –

grow best at a pH above 8.5 – grow best at a pH range of (5.5 – 8).

3. Fimbriae is a short, hair-like structures composed of protein called

pilin – flagellin – chitin – glucans

4. Runs of bacteria are broken up by sudden, random changes in direction called

swim – gliding – taxis – tumbles

5. In the bacterial cells are busy replicating various proteins and DNA.

lag phase – log phase – stationary phase – decline phase

Q. Cells require an aqueous environment, why? Explain it.

Q. Draw a diagram explaining binary fission steps in bacteria

Q. What are the functions of the followings:

Ribosomes – Storage bodies – Capsule

Q. Explain the important theories in microbiology.

Q. Classify bacteria according to O₂ requirement

Q. What are the functions of the following?

Flagella – Capsule – Attachment pili

Q. Draw and label binary Fission steps in bacteria.

Q. Draw and label flagellar arrangements.

Q. Answer the questions below (only 2):

1. In stationary phase, the growth rate is equal to the death rate. Why?

2. Cells require an aqueous environment, why?

3. Classify bacteria according to the mode of nutrition

4. What are the differences between G⁺ve and G⁻ve bacteria?

Q. Define the following:

5. Cell cytoplasm
6. Nucleoid
7. Sex pili
8. Flagella

Q. Draw and label structure of flagellum.

Q. Write the differences between Archaea and Bacteria.

Q. Classify bacteria according to nutrient source

Q. What are the functions of **3** of the following ?

5. Cell wall
6. Ribosomes
7. Cell membrane
8. Attachment pili

Q. Write **4** of basic characteristics of bacteria.

Q. Draw and label Growth Curve of bacteria.

Q. Fill in the blanks:

1. The science of microbiology started with
2. was the first to create a natural Kingdom for the microorganisms
3. Multicellular, and move with the aid of cilia, flagella, or muscle. No chloroplasts or cell walls called
4. Bacteria have distinctive cell walls, which contain
5. are something in between cocci and bacilli known as coccobacilli
6. Neutrophiles grow best at a pH range of
7. the only type of bacteria can use CO₂ as their source of carbon by photosynthesis called
8. Cell Cytoplasm dense gelatinous solution of
9. help bacteria adhere to surfaces.
10. In, one bacterium connects itself to another through a pilus. Genes are transferred from one bacterium to the other through it.
11. Some bacteria are capable of taking up DNA of dead bacterial cells from their environment in process called
12. In, the number of dead or dying bacterial cells begins to outnumber the new ones.

13. Methanogens obtain energy by changing H₂ and CO₂ gas into

Q. Fill in the following blanks with suitable words:

1. proved that living organisms can arise only from pre-existing living organisms.
2. Multicellular organisms with a cell wall, organelles, but no chloroplasts called
3. Some bacteria form which are metabolically inactive and can survive a long time under very harsh conditions.
4. In, the growth rate is equal to the death rate
5. Extreme halophiles found in the Dead Sea, they use to generate ATP.
6. Nucleoid is a single, double-stranded DNA molecule that contains
7. Some bacteria are capable of taking up DNA of dead bacterial cells from their environment in a process called
8. Plasma membrane is a biological membrane composed of

Q. What are the functions of cell wall

Q. Write 3 of general characteristics of bacteria

Q. Write about the following:

1. Facultative Anaerobic Respiration
- 2.. Biogenesis
3. Stationary phase
4. Thermoacidophiles
5. Capsule

Q. Match the scientist with his observation or discovery:

Haeckel - Ferdinand Julius Cohn - Aristotle - Paul Ehrlich - Robert Hooke
Fleming - Van Leeuwenhoek - Louis Pasteur - Christian Ehrenberg

1. The first person used a microscope for academic study.
2. Discovered fungi produced penicillin.
3. Was the first to create a natural kingdom for the microorganisms.
4. Believed that living organisms could develop from non-living materials.
5. The father of Microbiology.
6. Classified bacteria into four groups based on shape.
7. Developed the first antibiotic.
8. Disproved Spontaneous generation (Abiogenesis).
9. Introduced the name (bacterium) in 1838.

Q. Write about the following:

1. Modes of nutrition in bacteria
- 2.. Conjugation
3. Lag phase
4. Methanogens

Q. Fill in the following blanks with suitable words:

9. proved that living organisms can arise only from pre-existing living organisms.
10. Multicellular organisms with a cell wall, organelles, but no chloroplasts called
11. Some bacteria form which are metabolically inactive and can survive a long time under very harsh conditions.
12. In, the growth rate is equal to the death rate
13. Extreme halophiles found in the Dead Sea, they use to generate ATP.
14. Nucleoid is a single, double-stranded DNA molecule that contains
15. Some bacteria are capable of taking up DNA of dead bacterial cells from their environment in a process called
16. Plasma membrane is a biological membrane composed of

