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Fill in the Blank (FBQs)

FBQ1

Flagella is a \_\_\_\_\_ organelle in protozoa.

\*Locomotory\*

1.0000000

0.0000000

FBQ2

Amoeba and Paramecium are examples of \_\_\_\_\_

\*Protozoa\*

1.0000000

0.0000000

FBQ3

Some species of bacteria are able to change their forms especially when grown on artificial media. They are said to be \_\_\_\_\_

\*Pleomorphic\*

1.0000000

0.0000000

FBQ4

\_\_\_ is a sealed heating device that allows the entrance of steam under pressure.

\*An autoclave\*

1.0000000

\*Autoclave\*

1.0000000

FBQ5

The \_\_\_\_\_ growth Phase in which the microorganisms are dividing at the maximal rate would be determined by their genetic potential, the nature of the medium, and the environmental conditions under which they are growing

\*Exponential\*

1.0000000

0.0000000

FBQ6

The \_ can be expressed mathematically as

\*growth rate (R)\*

1.0000000

\*growth rate\*

1.0000000

FBQ7

Measurement of Total Cell Number is done using \_\_\_\_\_

\*Spectrophotometry\*

1.0000000

0.0000000

FBQ8

The \_\_\_\_\_ of a mold consists of long branched threadlike filaments of cells called hyphae.

\*Thallus\*

1.0000000

0.0000000

FBQ9

Microbial population death is exponential or logarithmic means that the population will be reduced by the same fraction at \_\_\_\_\_

\*constant interval\*

1.0000000

0.0000000

FBQ10

\_\_\_\_\_ are large thick walled spores formed when the tips of two sexually compatible hyphae or gametangia fuse together.

\*Zygosporangia\*

1.0000000

0.0000000

FBQ11

Yeasts can reproduce asexually by \_\_\_\_ and traverse division.

\*budding\*

1.0000000

0.0000000

FBQ12

The killing of \_\_\_\_\_ is accomplished by applying steam under pressure at a temperature of 121oC

\*Heat-resistant\*

1.0000000

\*Heat resistant\*

1.0000000

0.0000000

FBQ13

\_\_\_\_\_ agent is a natural or synthetic chemical that kills or inhibits the growth of microorganisms.

\*An antimicrobial\*

1.0000000

\*Antimicrobial\*

1.0000000

FBQ14

The various morphology types of viruses results from the combination of a particular type of capsid symmetry with the presence or absence of an envelope which is a lipid layer external to the \_\_\_\_\_

\*Nucleocapsid\*

1.0000000

0.0000000

FBQ15

Algae are unicellular microorganisms that have \_\_\_\_\_ and are photosynthetic.

\*Chlorophyll\*

1.0000000

0.0000000

0.0000000

FBQ16

Small aquatic forms of algae make up a large part of the free-floating microscopic life in water called \_\_\_\_\_

\*Plankton\*

1.0000000

0.0000000

FBQ17

Heavy algal growth may form \_\_\_\_\_ which interfere with the use of some natural waters for recreational purposes

\*Blanket\*

1.0000000

\*Mat\*

1.0000000

FBQ18

In sexual reproduction, the process of the fusion of two algal gametes that are different is called \_\_\_\_\_

\*Heterogamous\*

1.0000000

0.0000000

FBQ19

In parasitic protozoa, the developmental stages are often transmitted from host to host within a \_\_\_\_\_

\*Cyst\*

1.0000000

0.0000000

FBQ20

Each has The single site on the circular chromosome at which replication starts is called the \_\_\_\_\_

\*origin of replication\*

1.0000000

\*Origin\*

1.0000000

0.0000000

FBQ21

If a young, actively growing microbial culture is transferred to a fresh medium of the same composition, the \_\_\_\_\_ will be short or absent.

\*lag phase\*

1.0000000

0.0000000

FBQ22

\_\_\_\_\_ is the time required for a population to double.

\*Generation time\*

1.0000000

\*G\*

1.0000000

0.0000000

FBQ23

An apparatus designed to permit the growth of bacterial cultures at controlled rates and constructed so that sterile medium is fed into the culture vessel at the same rate as the spent media containing microorganisms is removed is referred to as \_\_\_\_\_

\*Chemostat\*

1.0000000

0.0000000

FBQ24

The use of an oven at a temperature of 150 to 160oC for 2 to 3 hours can also be used to sterilise \_\_\_\_\_

\*glass wares\*

1.0000000

\*Glasswares\*

1.0000000

0.0000000

FBQ25

\_\_\_\_\_ is defined as the science of biological classification.

\*Taxonomy\*

1.0000000

0.0000000

0.0000000

FBQ26

\_\_\_\_\_ classification is the grouping of microorganisms together based on the mutual similarity of the phenotypic characteristics.

\*Phenotypic\*

1.0000000

0.0000000

FBQ27

\_\_\_\_\_ similarity is often a good indication of phylogenetic relatedness.

\*Morphological\*

1.0000000

0.0000000

FBQ28

\_\_\_\_\_ are the earliest and the simplest group of fungi.

\*Chytridiomycetes\*

1.0000000

\*Chytrids\*

1.0000000

\*Chytridiomycetes or Chytrids\*

1.0000000

FBQ29

All known species of glomeromycetes form \_\_\_\_\_ with the roots of herbaceous plants.

\*Endomycorrhizae\*

1.0000000

\*arbuscular mycorrhizae\*

1.0000000

0.0000000  
FBQ30

\_\_\_\_\_ can be defined as a change in the nucleotide sequence of DNA

\*Mutation\*  
1.0000000

0.0000000  
FBQ31

A \_\_\_\_\_ is a strain of any cell or virus carrying a change in the nucleotide sequence.

\*Mutant\*  
1.0000000

0.0000000  
FBQ32

The carbon cycle primarily involves the transfer of \_\_\_\_\_ and organic carbon between the atmosphere where carbon occurs principally as inorganic CO<sub>2</sub> and the hydrosphere and lithosphere which contain varying concentrations of organic and inorganic compounds.

\*carbon dioxide\*  
1.0000000  
\*CO<sub>2</sub>\*  
1.0000000

0.0000000  
FBQ33

Biogeochemical cycling of elements is the movement of materials via biochemical reactions through \_\_\_\_\_

\*Biospheres\*  
1.0000000

0.0000000  
FBQ34

In the \_\_\_\_\_ growth phase, although the cell is metabolically active synthesizing new components, there is no cell division and growth.

\*Lag\*  
1.0000000

0.0000000  
FBQ35

Yeasts can reproduce asexually by \_\_\_\_\_ and traverse division.

\*Budding\*  
1.0000000

0.0000000

Multiple Choice Questions (MCQs)

MCQ1

The diagram above is an example of \_\_\_\_.

Prokaryotic cell

1.0000000

Animal cell

0.0000000

Eukaryotic cell

0.0000000

Plant cell

0.0000000

MCQ2

Inoculating loops used in the laboratory during the culturing of bacteria can be sterilised in

A bench top incinerator

1.0000000

An autoclave

0.0000000

A water bath

0.0000000

An oven

0.0000000

MCQ3

In bacteria, genetic recombination does not result from \_\_\_\_\_

Conjugation

0.0000000

Transduction

0.0000000

Detection

1.0000000

Transformation

0.0000000

MCQ4

Which of the following is not a peculiar feature of the biogeochemical cycles?

Elements required are in five forms and mostly from living reservoir in the atmosphere.

1.0000000

The elements go in cycle and are always free in inorganic state in abiotic environment and when needed in biotic environment, they are turned to organic state.

0.0000000

The biogeochemical cycles are complex and they involve the activity of producers, consumers and decomposers.

0.0000000

All organisms participate directly in recycling by removing, adding or altering nutrients.

0.0000000

MCQ5

The concept of spontaneous generation states that \_\_\_\_.

living organisms could develop from non-living matter

1.0000000

living organisms can only develop from living matter

0.0000000

living organisms develop from maggots

0.0000000

Living organisms cannot develop from decomposing matter

0.0000000

MCQ6

That microorganisms are the cause of infectious diseases is referred to as \_\_\_\_

Theory of spontaneous generation

0.0000000

Sterilization theory

0.0000000

Theory of regeneration

0.0000000

Germ Theory of Disease

1.0000000



MCQ7

What does the scheme above represent?

Koch's postulate

1.0000000

Contamination scheme

0.0000000

Infection scheme

0.0000000

Robert's postulate

0.0000000

MCQ8

The following are basic aspects of microbiology except \_\_\_\_

Medical microbiology

1.0000000

Biochemistry

0.0000000

Algology

0.0000000

Microbial cytology

0.0000000

MCQ9

Which of the following is not an expected future challenge for microbiology?

Finding new approach to new and re-emerging diseases

0.0000000

New approach to increase environmental pollution and climate change

1.0000000

Investigating biological problems

0.0000000

Bioremediation

0.0000000

MCQ10

In a compound microscope, the magnified image formed by the objective lens is further enlarged by \_\_\_\_

Oil immersion lenses

0.0000000

Convex lenses

0.0000000

Concave lenses

0.0000000

one or more additional lenses

1.0000000

MCQ11

Based on their source of energy bacteria are classified as \_\_\_\_

Phototrophs and chemotrophs

1.0000000

Aerobic or strict aerobes

0.0000000

Heterotrophs and autotrophs

0.0000000

Anaerobic bacteria or strict anaerobes

0.0000000

MCQ12

These are stick like bacteria with rounded, square, tapered or swollen ends. They measure 1-10 $\mu\text{m}$  in length by 0.3-1.0 $\mu\text{m}$  in width. Which shape of bacteria does this describe?

Rod

1.0000000

Diplococci

0.0000000

Vibrios

0.0000000

Treponemes

0.0000000

MCQ13

Uncommon shapes of bacteria includes the following except

pear shaped cells

0.0000000  
lobed spheres

0.0000000  
Palisade arrangement cells

1.0000000  
rods with helically sculptured surfaces

0.0000000  
MCQ14  
Which of the following describes flagella?

They parts of the bacterium with several components and structures; some are external to the cell wall while others are internal to the cell wall

0.0000000  
These are helical bacteria, small, regularly coiled, rigid, organisms measuring 3-4 $\mu\text{m}$  in length. Each coil measures about 1 $\mu\text{m}$ , e.g. Spirillum minus

0.0000000  
These are hair like, helical appendages that protrude through the cell wall, 0.01  $\mu\text{m}$  – 0.02 $\mu\text{m}$  in diameter and simple in structure. Based on their location on the cell, they may be polar or lateral.

1.0000000  
Uncommon

0.0000000  
MCQ15  
Which of the following best explain the functions of bacterial sheaths?

They increase surface area of the cell for nutrient absorption. Some sheaths also have adhesive substances that aid attachment to surfaces.

1.0000000  
Increase surface area of the cell for nutrient absorption

0.0000000  
They aid attachment of the bacterial cell to surfaces because of the adhesive substances.

0.0000000  
They are simple ornamentations that have no function.

0.0000000

MCQ16

Structures internal to the cell wall include the following except

Cytoplasmic Membrane

0.0000000

Protoplast

0.0000000

Cytoplasm

0.0000000

Cilia

1.0000000

MCQ17

What is fungal mycelium?

Fungal mycelium is a complex of several filaments called hyphae.

1.0000000

Fungal mycelium is the cell wall.

0.0000000

Fungal mycelium is cytoplasmic streaming.

0.0000000

Fungal mycelium is uninterrupted protoplasmic streaming.

0.0000000

MCQ18

Reproduction in fungi can either be \_\_\_\_ or \_\_\_\_.

fission or fragmentation

0.0000000

asexual or sexual

1.0000000

aerobic or hydrolytic

0.0000000

Anaerobic or aerobic

0.0000000

MCQ19

What is sexual reproduction?

Sexual reproduction is a type of reproduction involving only one parent that produces genetically identical offspring.

0.0000000

Sexual reproduction is a type of reproduction involving only one parent that produces genetically identical offspring by budding or by the division of a single cell or the entire organism into two or more parts

0.0000000

Sexual reproduction is a type of reproduction in which two parents give rise to offspring that have unique combinations of genes inherited from the gametes of the two parents

1.0000000

Sexual reproduction is a type of reproduction in which one parent gives rise to offspring that have unique combinations of genes not inherited from the gametes of the parent.

0.0000000

MCQ20

Which of the following is not a method of sexual reproduction in fungi?

Antheridium

1.0000000

Spermatization

0.0000000

Gamete-gametangial copulation

0.0000000

Somatic copulation

0.0000000

MCQ21

Which of the following is not a beneficial use of fungi?

Fungi act as decomposers.

0.0000000

Moulds and yeasts are used in many industrial processes like fermentation.

0.0000000

Fungi do not cause disease to man and animal but to plants.

1.0000000

Fungi are useful in the production of antibiotics.

0.0000000

MCQ22

The following are characteristics of viruses except

They are acellular.

0.0000000

They only reproduce when present within living cells.

0.0000000

Most viruses can only be viewed under an electron microscope.

0.0000000

They are not infectious agents.

1.0000000

MCQ23

Which of the following is not a function of viral capsids?

The capsid surrounds and protects the viral nucleic acid.

0.0000000

Capsids self-assemble from many copies of one or a few types of proteins

1.0000000

The capsid gives the virus a characteristic shape.

0.0000000

The capsid helps to establish the specificity of the virus for a particular host cells.

0.0000000

MCQ24

Which of the following is not a type of capsid symmetry?

Helical

0.0000000

Icosahedral

0.0000000

Complex

0.0000000

Bacteriophage

1.0000000

MCQ25

Which of the following is correct about the first step in the life cycle of a virus and host?

The first step in the life cycle of a virus is attached to a host because viruses are enveloped in a host.

0.0000000

The first step in the life cycle of a virus is attached to a host because a virus differs from a cell.

0.0000000

The first step in the life cycle of a virus attached to a host because viruses need a host cell in which to reproduce.

1.0000000

MCQ26

Which of the following is a reason why viruses cannot be cultured in the same way as prokaryotic and eukaryotic microorganisms?

Viruses are unable to reproduce independent of living cells

1.0000000

Viruses are the smallest microorganisms

0.0000000

Viruses are particles and a complex entity is called a virion.

0.0000000

Viral genome is replicated and viral proteins are synthesised

0.0000000

MCQ27

How are animal viruses cultured?

By inoculating suitable host animals, embryonated egg or in tissue (cell) culture on monolayers of animal cells

1.0000000

By inoculating in non-host animal tissue culture.

0.0000000

By cultivating in either broth or agar cultures of young, actively growing cells.

0.0000000

In plant tissue cultures, cultures of separated cells, or cultures of protoplasts.

0.0000000

MCQ28

The quantity of viruses in a sample can be determined directly by

differential and density gradient centrifugation

0.0000000

counting particle numbers using the electron microscope.

1.0000000

precipitation of viruses particles

0.0000000

denaturation of contaminants

0.0000000

MCQ29

The quantity of viruses in a sample can be determined indirectly by

counting particle numbers using the electron microscope

0.0000000

Purification of the virus particles

0.0000000

enzymatic digestion of host cells constituents

0.0000000

measurement of an observable effect of the virus using techniques such as the hemagglutination assay

1.0000000

MCQ30

Which of the following is not true of algae?

Algae are heterogeneous and range from microscopic unicellular forms to macroscopic seaweeds.

0.0000000

Many live in aquatic environments but many also thrive as subterranean algae.

0.0000000

Single algal cells are complete organisms capable of photosynthesis and synthesizing other compounds which constitute the cell.

0.0000000

Algae are multicellular organisms.

1.0000000

MCQ31

Algae are found where there are sufficient amount of the following to sustain them except

Simple nutrients

0.0000000

light



0.0000000  
moisture

0.0000000  
competition

1.0000000  
MCQ32

Biological and economic importance of algae include the following except

Algae are primary producers

0.0000000

Commercial products such as agar, alginic acid and carrageenan are extracted from the wall of algae

0.0000000

Many algal species, mostly as red and brown algae, are used as food.

0.0000000

Algae are photosynthetic eukaryotic microorganisms.

1.0000000

MCQ33

Multicellular algae appear in every conceivable form, shape and degree of complexity including the following except

Membranous colonies,

0.0000000

Zoospores

1.0000000

Singly or in clusters with individual strands which may be branched or unbranched tubes

0.0000000

Filaments grouped

0.0000000

MCQ34

What are the features that distinguish protozoa from other eukaryotic protists?

Other eukaryotic protists are found in a variety of habitats and their distribution is influenced by moisture, temperature, light, available nutrients, and other physical and chemical conditions.

0.0000000

Protozoa are not different from other eukaryotic protists.

0.0000000

Their ability to move at some stage of their life cycle and by their lack of cell walls.

1.0000000

Some algae live in mutualistic association with other organisms.

0.0000000

MCQ35

Which of the following is not an applied aspect of microbiology?

Agricultural microbiology

0.0000000

Aquatic and Marine Microbiology

0.0000000

Aeromicrobiology

0.0000000

Bacteriology

1.0000000