

Botony Previous Year Questions

Question 1. How Does Caffeine Effect Plant Growth?

Answer :

Minerals like potassium are often found alongside caffeine when it occurs in plant sources like coffee beans, and that could help the plant grow faster. However, the caffeine itself would be unlikely to have any affect on the plant's rate of growth.

Question 2. How Do You Determine If A Molecule Is Polar Or Non - polar?

Answer :

A polar molecule is a molecule that has a net dipole moment due to its having un-symmetrical polar bonds.

Two factors go into determining if a molecule is a polar. To determine if a molecule (or ion) is polar or non - polar, you must determine both factors.

The polarity of the individual bonds in the molecule.

The shape or geometry of the molecule.

Question 3. What Is The Difference Between Xylem And Phloem?

Answer :

Both xylem and phloem are vascular tissues found in a plant. Xylem is a tubular structure, which is responsible for water transport from the roots towards all of the parts of the plant. Phloem is also a tubular structure, which, on the other hand, is responsible for the transportation of food and other nutrients needed by plant.

Question 4. What Is A Burette And How Is It Used?

Answer :

A burette is a uniform-bore glass tube with fine gradations and a stopcock at the bottom, used especially in laboratory procedures for accurate fluid dispensing and measurement.

The burette is commonly used in titrations to measure precisely how much liquid is used. A burette is simultaneously occupied by the presences of a liquid measuring and transferring this derailment.

Question 5. What Is A Characteristic Feature Of A Carrier Protein In A Plasma Membrane?

Answer :

Carrier proteins are globular proteins which are specific it their action and thus regulate the entry and exit of particles into the cell. They help in the conduction of ionic substances and polar substances.

Question 6. What Are Living And Nonliving Reservoirs?

Answer :

Viruses are both living as well as non-living. They have reservoirs of genes. A single nucleotide is a unit of gene. Viral genes make use of host raw material (non-living elements/organic moieties/ water etc.,) including elements to synthesize organic molecules or macromolecules. Subsequently, viruses replicate themselves thereby reproduce within the living cells. On crystallization, they become non-living and can stay in this state for years until they enter again into a living host to multiply. Certain plant viruses are transmitted to the progeny through seeds. Viruses evolve as any other living being. Therefore, now virus names are written in italics like binomial/trinomial names similar to scientific name of any other living organism i.e. Tobacco mosaicvirus (read as italic).

Question 7. What Are Analogies For Centrioles?

Answer :

A Centriole is like a straw because they both are tubes that let things get from one end to the other end.

The centriole has a round look to it because it is made from nine triplets of microtubules that make a straw-like (as said above) look.

Question 8. What Is An Analogy For A Smooth Endoplasmic Reticulum?

Answer :

Endoplasmic reticulum (ER) is like a manufacturing plant, like a factory, where proteins and lipids are made. This is also where things are packaged into boxes and sent off to different places. In the cell the smooth ER is a network of membrane bound bodies which lack ribosomes (the molecules used in protein synthesis) and its primary function is to modify, encapsulate and transport newly synthesized proteins and lipids which will be secreted or remain in the cytoplasm as membrane bound vesicles. The smooth ER can also be compared to a highway, or a protein and lipid highway, if you will. It is sometimes called the transitional ER because it contains exit sites from which transport vesicles carrying these proteins and lipids bud off for transport to the Golgi apparatus. It is usually prominent in cells that specialize in lipid metabolism and synthesis.

Question 9. Why Do Organisms Live In Certain Places?

Answer :

Think of that, the temperature difference in the desert is huge. So in order to survive, the cactus plant reduces heat gain and heat loss as well as water loss. (E.g. narrow pin shaped leaves, long extensive roots).

Question 10. Who Created The Two-part Naming System Used In Biology?

Answer :

The scientific naming system that is used worldwide today was first devised by Swedish naturalist Carl Linnaeus in 1737. He proposed a two-part naming system, which classifies every living organism with a string of Latin and Greek identifiers. Full names are devised starting with kingdom and extending downward through phylum, subphylum, class, order, family, genus and species. The two-part name, or binomial name, consists of the genus and species of the organism and used to prevent the confusion that may arise with common names.

Question 11. How Does The Odor Of Flower Petals Help Pollination?

Answer :

The purpose of the perfume is to attract a pollinator – insect, bat, bird or whatever. The reward for the pollinator is a meal of nectar, which is produced by the flower.

Question 12. What Is An Analogy For Microtubules?

Answer :

Microtubules have two main functions in cells and in doing so act like a skeleton as well as like railroad tracks. Microtubules are the main structural component of the cytoskeleton in cells, which provides the cell with structure and rigidity and determines the shape of the cell. They also serve to transport vesicles and proteins within the cytoplasm through transport proteins called kinesins and dyneins, which act much like railroad cars.

Question 13. What Is The Difference Between An Acid And A Base?

Answer :

Base is any thing, which has a capability to abstract a proton.

Using the simplest definition, an acid is something when added to water releases hydrogen ions (H^+), also called protons. A base, or an alkali, is something that when added to water releases hydroxide (OH^-) ions.

The strength of a basic (or alkaline) or acidic solution is measured using the pH scale. A pH of 7 is perfectly pure neutral water (neither acidic nor basic), and pH below 7 is acidic, and a pH above 7 is basic.

There is another definition, which says that an acid releases H^+ and a bases remove H^+ from water. This definition is a bit more general than the first one above. Note that releasing OH^- is the same as removing H^+ . This is because when OH^- mixes with H^+ , they form neutral H_2O , and so for every OH^- released, one H^+ is removed by combining them into water.

The final definition of an acid and base is the most general, but the hardest to understand conceptually, and it is not always taught in high school because of this. According to this definition, acids are electron pair acceptors, and bases are electron pair donors.

Question 14. Why Does Dna Twist?

Answer :

As we all know, if we join all of the DNA molecules from a person's body end to end, we would get length three times the distance from the centre of the earth to the sun! Therefore, DNA does not have a choice but to follow the super solenoid structure. This is also aided by the purine-pyrimidine linkages, to balance the weight of DNA components. Why pressing down on the cover slip does not remove excess water. Because of Newton's Third Law of Motion: Every action has an equal an opposite reaction and hydraulic pressure. When you press down on the cover slip, the water underneath it pushes back against you with the same force that you are pressing down on it. If you want to get the water to move out from under the cover slip, you need to direct it to the side. One way to do this is to lift an edge

and break the suction, then set it back down on one edge first to let the water run out, then press it down. This creates a side motion so the water does not push straight up into the cover slip, but pushes at an angle, which allows it to run out.

Question 15. What Is Botanical Garden?

Answer :

A garden in which gymnosperm and angiosperm plants are situated.

Question 16. What Is The Ploidy Of Endosperm In Angiosperms?

Answer :

TRIPLOID.

Question 17. What Are The Main Components Of Sindhur?

Answer :

SINDUR = TURMERIC + CALCIUM CARBONATE.

Question 18. What Are The Signs Of Male And Female Plants?

Answer :

Only flower is one part where we find sign of male or female plant take a flower of plant and observe if androecium are present it means male, if carpel is present it means female, if both sexes are present plant becomes bisexual.

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Question 19. What Is Telome Theory?

Answer :

Zimmermann has given a picture of the origin of the pteridophytes based on his telome theory. Zimmermann defines the telome as the single-nerved extreme portion of the plant body from the tip to the next point of branching.

Question 20. What Is Electrophoresis?

Answer :

Electrophoresis is an electronic equipment. It is used for protein extraction, not only protein and also amino acids like. Basic principle of this electrophoresis is molecules separated on the basis of the molecular weight. There are several types of electrophoresis used; it depends upon our sample.