Biology Questions

1. Bacteria that live around hydrothermal vents use what molecule as the final electron acceptor in respiration?

Answer: SULFATE IONS

1. The nonessential amino acids are created by modifying compounds created where?

Answer: CITRIC ACID CYCLE or KREBS CYCLE or TRICARBOXYLIC ACID CYCLE

1. Photoreactivation uses what range of frequencies of electromagnetic radiation to repair DNA damage?

Answer: Visible light

1. Fluorescent dyes are used to tag mRNA probes in order to detect which tissues are expressing certain genes in what technique?

Answer: *in situ* hybridization

1. What is the film that DNA sticks to in a Southern blot made of?

Answer: Nitrocellulose

1. During meiosis, if nonsister chromatids exchange unequally sized segments of DNA, what has occurred?

Answer: Nonreciprocal crossover

1. Consider an individual with just monosomy X. What syndrome are they suffering from?

Answer: Turner Syndrome

1. During what phase of meiosis are cohesins cleaved?

Answer: Anaphase II

1. During synapsis, homologs are physically connected by a zipper-like protein structure known as what?

Answer: Synaptonemal Complex

1. The most common form of hyperthyroidism is what autoimmune disorder?

Answer: Graves' Disease

1. Parathyroid hormone causes the activation of what molecule in the kidneys?

Answer: Vitamin D

1. In C4 plants, ATP is used to convert pyruvate to what compound necessary to C4 metabolism?

Answer: Phosphoenolpyruvate (PEP)

1. Chlorophyll consists of a porphyrin ring containing what metal ion?

Answer: Magnesium

1. Mistletoe and trees have what type of symbiotic relationship?

Answer: Parasitism

1. Which vitamin is necessary for the modification of proline to hydroxyproline in collagen?

Answer: Vitamin C

1. What is the most common natural cytokinin?

Answer: Zeatin

1. Which hormone prevents seeds from germinating within the fruit?

Answer: Abscisic Acid

1. What group of protists causes red tide?

Answer: Dinoflagellates

1. Diatoms store energy in the form of what carbohydrate?

Answer: Laminarin

1. What two structures in the inner ear allow us to perceive position with respect to gravity and linear movement?

Answer: Utricle and Saccule

1. The sensations of sweet, umami, and bitter are conveyed by what type of receptors?

Answer: G-protein coupled receptor

1. The energy needed to make ATP for contraction in muscles is located in two compounds. Name the compounds.

Answer: Creatine Phosphate and Glycogen

1. Myelination in the central nervous system is carried out by what cells?

Answer: Oligodendrocytes

1. What is the name for the fibers that connect the two hemispheres of the brain?

Answer: Corpus callosum

1. How many species belong to the phylum placozoa?

Answer: ONE