Copy of Exam 2 - Results

Exit Preview

Attempt 1 of 3

Written Feb 28, 2024 10:17 AM - Feb 28, 2024 10:17 AM

Your quiz has been submitted successfully.

Attempt Score **0 / 23 - 0 %**

Question 1

0 / 1 point

do plants make cholesterol?

- ◯ True
- ◯ False

Question 2

0 / 1 point

When blood glucose is abundant, a pretty neat trick of the liver is

- glycolysis, which is an animal's way of storing glucose
- glycogenesis, which is an animal's way of storing glucose
- the production of glycoproteins, which is an animals, why of storing glucose
- glycogenolysis, which is an animal's way of storing glucose
- gluconeogenesis, which is an animal's way of storing glucose

Question 3 **0 / 1 point**

insulin

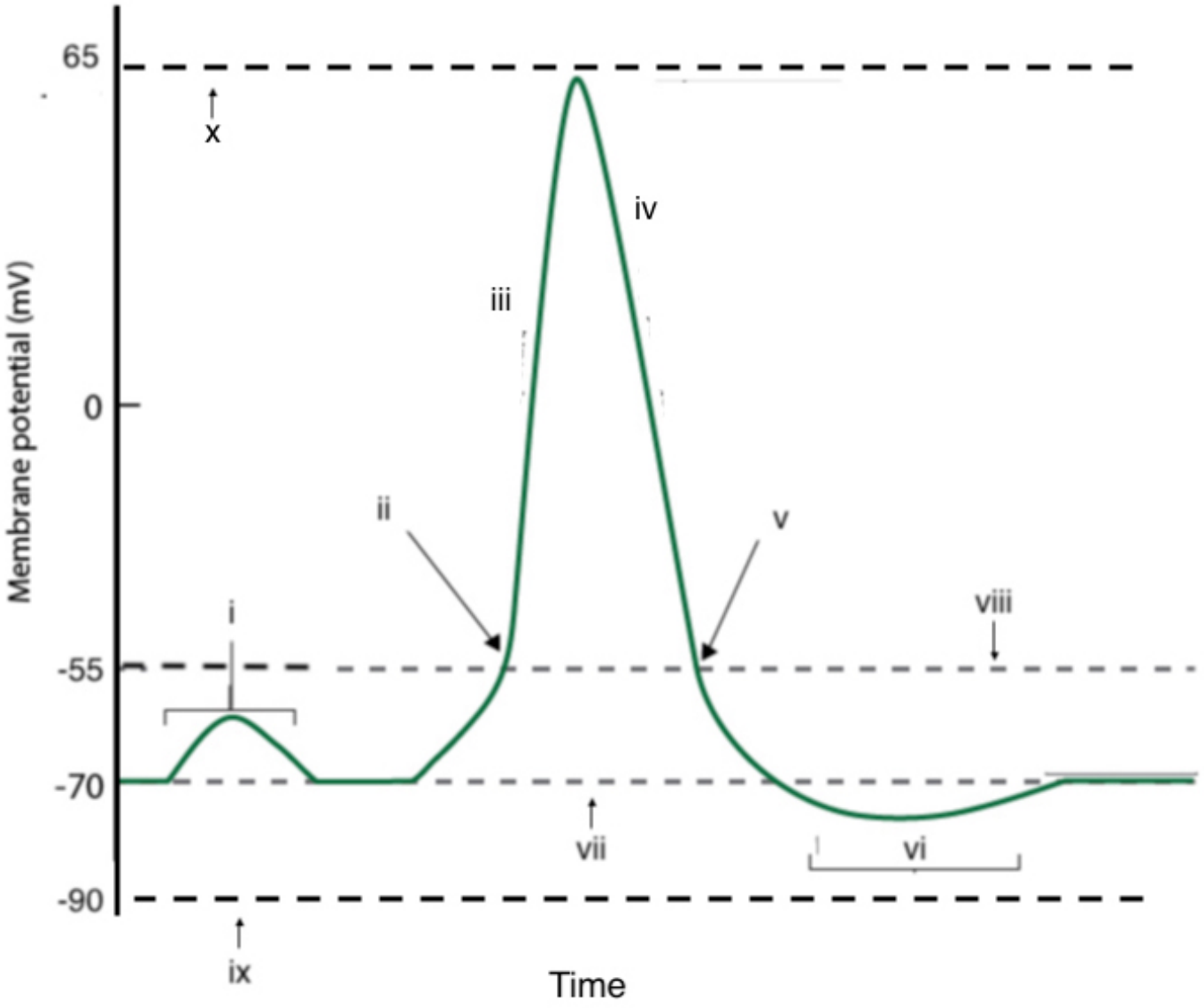
- signals skeletal muscle cells to transport glucose from the blood
- signals liver hepatocytes to breakdown glycogen
- signals liver hepatocytes to convert acetyl-CoA to ketone bodies
- signals brain cells to transport glucose from the blood
- signals adipose cells to breakdown stored triacylglycerols

Question 4 **0 / 1 point**

Some snakes find prey by sensing the heat radiated by the prey animal. The snake is sensing

- changes in air temperature (average kinetic energy of air molecule) by a type of proprioceptor
- changes in air temperature (average kinetic energy of air molecule) by a type of thermoreceptor
- the ultraviolet region of the electromagnetic spectrum by a type of electromagnetic receptor
- the infrared region of the electromagnetic spectrum by a type of electromagnetic receptor
- changes in air temperature (average kinetic energy of air molecule) by a type of mechanoreceptor

Question 5 **0 / 1 point**



What is going with the membrane potential at label iv?

- the potential is rapidly moving toward the equilibrium potential for K+
- the Na+/K+ pump has reversed the direction that it is pumping Na+ and K+
- there is net positive charge moving into the cell
- the resting potential is changing because the membrane is more permeable to Na+
- the resting potential is changing because the membrane is more permeable to K+

Question 6 **0 / 1 point**

A neuron has a resting potential -- what does this mean

- there is no transport of ions across the membrane
- the Na+/K+ pump is inactive
- the membrane is in electrochemical equilibrium -- there is no diffusion of any ion across the membrane
- the membrane potential is in electrical stability -- there is no net transport of charge across the membrane
- the membrane is impermeable to ions

Question 7 **0 / 1 point**

the cellulose in an animal diet comes from

- a skeletal protein in the space outside plant cells
- a cytoskeletal protein of plants
- the plasma membrane of plant cells
- it is a metabolic product from gut bacteria that eat undigested plants
- the cell wall of plant cells

Question 8 **0 / 1 point**

Batrachotoxin (BTX) is a toxin found in poison arrow frogs and used by indigenous South Americans as a poison to tip darts or arrows. BTX paralyzes prey animals by its action on skeletal muscle. The mechanism of action is [hint: use wikipedia as a supplement to your textbook]

- BTX is a competitive inhibitor (a blocker) of the binding site for acetylcholine on the acetylcholine receptor of the skeletal muscle. This inhibition blocks the response of the skeletal muscle to signaling from the motor neuron.
- BTX depolarizes and permanently opens voltage-gated Na+ channels on the axon of the neurons that stimulate skeletal muscle cells. The constant depolarization of the axon membrane blocks transmission of the action potential down the axon, inhibiting signaling of skeletal muscle.
- BTX is an inhibitor (a blocker) of voltage-gated Na+ channels on the axon of the neurons that stimulate skeletal muscle cells. This inhibition stops the transmission of action potentials to the axon terminus.
- BTX cleaves the SNARE proteins in the axon terminus of the neurons that stimulate skeletal muscle cells. By cleaving the SNARE proteins, the curare inhibits the exocytosis of the vesicles containing the acetylcholine.
- BTX is an allosteric inhibitor of the Ca++ channels on the Ach neurons. This inhibits the exocytosis of the vesicles containing the acetylcholine.

Question 9 **0 / 1 point**

exocrine secretions from the pancrease contain

- emulsifying agents
- digestive enzymes
- the hormones insulin and glucagon
- bile
- the strong acid HCl

Question 10 **0 / 1 point**

a major role of the pancreas in digestion is

- storage and secretion of bile
- secretion of insulin and glucagon
- absorption of digested molecules
- interconversion of lipids, carbohydrates, and peptides
- secretion of digestive enzymes

Question 11 **0 / 1 point**

The ability to perceive the position of one's limbs is called [hint - this was in lecture but there is very limited discussion of the *important* system in your textbook]

- mechanoception
- nociception
- proprioception
- perception
- graviception

Question 12 **0 / 1 point**

dietary disaccharides

- are the lipid soluble vitamins
- are small carbohydrates with two subunits, one of which is usually glucose and the other of which could be glucose, or fructose, or galactose
- are two-unit peptide chains that form during digestion
- are the fiber component of our diet
- are glycerols bonded to two fatty acids

Question 13 **0 / 1 point**

The depolarization phase of an action potential of a neuron occurs because of

- an inward Na+ current
- an electron flux out of the cell
- a K+ flux out of the cell
- a proton flux into the cell
- a Na+ current running down the axon

Question 14 **0 / 1 point**

leucine is an essential amino acid. What is an essential amino acid?

- it is necessary as part of the diet because we do not make an adequate amount (or make it at all)
- it is used as a co-enzyme
- it is necessary for cell function
- we only need it in very small amounts
- it is one of the 20 amino acids necessary to make protein

Question 15 **0 / 1 point**

What is the role of Ca++ at a synapse?

- Ca++ is secreted by post-synaptic membranes to stop synaptic signaling
- Ca++ enters the cytosol of the terminal button and stimulates exocytosis of neurotransmitter
- Ca++ is a secreted neurotransmitter that binds to receptors on the post-synaptic membrane and causes an EPSP
- Ca++ diffuses down its electrochemical gradient causing the pre-synaptic membrane to hyperpolarize
- neurotransmitter binds to and opens ligand-gated Ca++ channels on the post-synaptic membrane, causing an IPSP

Question 16 **0 / 1 point**

what sense do thermoreceptors sense?

- light
- force
- electrical fields
- temperature
- specific chemicals

Question 17 **0 / 1 point**

The conversion of a sensory signal into a change in membrane potential on the sensory cell's plasma membrane is known as

- sensory transduction
- proprioception
- perception
- the translation of a sensory signal into electrical information (an action potential)
- an action potential

Question 18 **0 / 1 point**

if the membrane potential is -120 mV, the rate and direction of K+ diffusion and Na+ diffusion is

- K+: low rate, into the cell; Na+: high rate, out of the cell
- K+: low rate, into the cell; Na+: high rate, into the cell
- K+: high rate, out of the cell; Na+: high rate, out of the cell
- K+: high rate, into the cell; Na+: high rate, into the cell
- K+: high rate, out of the cell; Na+: low rate, into the cell

Question 19 **0 / 1 point**

Fatty acids are stored by both plants and animals as what molecule?

- glycogen
- triacylglycerols
- cholesterol
- low density lipoprotein
- starch

Question 20 **0 / 1 point**

Some human populations have evolved a higher copy number of amylase genes. What is copy number?

- the number of different mRNAs that can be made from a gene by alternative splicing
- the number of transcripts that can be made by a gene
- the number of alleles of a gene in a population
- the number of genes in a gene family
- the number of duplicate copies of a gene in the genome of a person

Question 21 **0 / 1 point**

if the membrane potential is +20 mV, the rate and direction of K+ diffusion and Na+ diffusion is

- K+: low rate, into the cell; Na+: high rate, into the cell
- K+: low rate, out of the cell; Na+: high rate, into the cell
- K+: low rate, into the cell; Na+: high rate, out of the cell
- K+: high rate, out of the cell; Na+: low rate, into the cell
- K+: high rate, out of the cell; Na+: high rate, out of the cell

Question 22 **0 / 1 point**

In the postabsorptive state,

- nutrient energy in the blood is high and tissues synthesize and store ATP
- nutrient energy in the blood is low and tissues use glucose from glycogen stores in the liver and fatty acids from triacylglycerol stores in adipose cells
- nutrient energy in the blood is high and tissues use absorbed glucose and fatty acids
- nutrient energy in the blood is low and tissues rely on stored ATP
- nutrient energy in the blood is low and tissues rely on amino acids from the breakdown of muscle tissue

Question 23 **0 / 1 point**

When blood glucose is limited, a pretty neat trick of the liver is

- lipogenesis from fatty acids
- gluconeogenesis from fatty acids
- protein synthesis from fatty acids
- lipogenesis from glucose
- gluconeogenesis from amino acids

Done