

My grades for BME205 Quiz 1

Q1

1 / 1

Which of these statements describes negative feedback?

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- ☐ A change in a regulated variable triggers a response by the effector that opposes the change.
 - ✓ ☒ The input to a system increases the output, and the output limits its own production by inhibiting the input.
 - ☐ A feedback system designed to maintain body systems at a set point while responding to external or environmental changes

Q2

1 / 1

After you eat lunch, nerve cells in your stomach respond to the distension (the stimulus) resulting from the food. They relay this information to _____.

- ☐ a set point
- ☐ effectors
- ✓ ☒ a control centre

Q3

0 / 1

Choose the term that best completes the following analogy: Cytoplasm is to cytosol as a pot of soup is to _____.

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- ✓ ☐ the soup broth
 - ☐ the lid
 - ☒ the ingredients in the soup

Q4

1 / 1

Which of these organelles is NOT membrane bound?

- ☐ Mitochondrion
- ☐ Lysosome
- ☒ Ribosome

Q5

0 / 1

Which of the following is not a function of the cellular membrane?

- ✓ ☐ Allows for intracellular and extracellular fluid compositions to remain equal and constant
- ☒ Divides the cell into discrete compartments
- ☐ Hosts proteins involved in transducing signals from the surrounding environment

Q6

1 / 1

Ribosomes may be found attached to which other cellular organelle?

- ☐ Mitochondrion
- ☐ Golgi complex
- ✓ ☒ Endoplasmic reticulum

Q7

1 / 1

Which of these cellular organelles is the site for protein synthesis?

- ☒ Ribosome
- ☐ Endoplasmic reticulum
- ☐ Golgi complex

Q8

1 / 1

Place the following genetic structures in order from least to most complex organization:

- ☐ DNA, histones, chromatin, chromosome
- ☐ Nucleotide, nucleosome, chromatin, DNA
- ✓ ☒ DNA, nucleosome, chromatin, chromosome

Q9

1 / 1

Which of the following is not a difference between DNA and RNA?

- ✓ ☒ DNA contains alternating sugar-phosphate molecules whereas RNA does not contain sugars
- ☐ DNA contains deoxyribose and RNA contains ribose
- ☐ DNA contains thymine whereas RNA contains uracil

Q10**0 / 1**

Which of the following is not made out of RNA?

- ✓ ☐ The ribosome
- ☒ An intron
- ☐ The messenger molecule that provides the code for protein synthesis

Q11**1 / 1**

For most genes, which step in the expression of a gene is the critical, rate-limiting step?

- ✓ ☒ Initiation of transcription
- ☐ Splicing during RNA processing
- ☐ Alteration of the chromatin structure

Q12**1 / 1**

Which of these compounds is the metabolic product that enters the TCA cycle?

- ☐ Pyruvic acid
- ☐ Citrate
- ✓ ☒ Acetyl CoA

Q13

0 / 1

Which of the following best explains the variability in the number of ATP molecules produced from glucose?

- ☐ The citric acid cycle produces variable amounts of ATP.
- ☒ Glycolysis is not always 100 percent efficient.
- ✓ ☐ Some transporters use ATP to move NADH into the mitochondria.

Q14


1 / 1

What will happen when a membrane separates unequal solutions of a nonpenetrating solute?

- ✓ ☒ The volume of solution on the side of the membrane with the higher concentration will increase.
- ☐ The volume of solution of the side of the membrane with the higher concentration will decrease.
- ☐ The volume of solution on the side of the membrane with lower concentration will increase.

Q15**1 / 1**

Quabain is a poison that blocks the Na^+/K^+ ATPase pump. In the presence of quabain, the concentration of K^+ inside the cells should:

- ☒  Decrease
- ☐ Increase
- ☐ Not change

Q16

1 / 1

If a neuron (resting membrane potential = -70 mV and a threshold potential of -55 mV) was exposed to a neurotoxin that inactivated K^+ leak channels to a degree that the neuron exhibited equal permeability to Na^+ and K^+ ions, the cell would become:

-
- ☐ polarized
 - ☐ hyperpolarized
 - ☒ hyperexcited

Q17

1 / 1

For cells that communicate by electrical synapses, the message travels between cells via _____.

- ✓ ☒ diffusion of ions through connexons
- ☐ diffusion of neurotransmitter through gap junctions
- ☐ diffusion of neurotransmitters across the synaptic cleft


Q18**1 / 1**

Which of the following statements does NOT refer to graded potentials?

- ✓ ☒ They are most often generated by opening of voltage-gated channels.
- ☐ They are most often generated by opening of ligand-gated channels.
- ☐ They occur on a localized area of the plasma membrane.

Q19**1 / 1**

Which of the following describes saltatory conduction?

- ☒  Involves the impulse jumping from one node of Ranvier to the adjacent node
- ☐ Involves the impulse moving from one area of an axon to the next in one direction
- ☐ Refers to the action potential spreading from one Schwann cell to the adjacent Schwann cell

Q20

0 / 1

Which of the following occurs at an excitatory synapse?

- ✓ ☐ There is increased permeability of the subsynaptic membrane to both Na^+ and K^+ .
- ☒ The presynaptic neuron increases the permeability of the subsynaptic membrane of the postsynaptic cell to K^+ only.
- ☐ An action potential in the presynaptic neuron always causes an action potential in the postsynaptic neuron.

