

Brett Robbins Academic Consulting

Biology 30 Practice Test

Unit A: Nervous & Endocrine Systems

10 Questions

Original practice questions written to the Alberta curriculum, in the style of past diploma examinations. Work through each question, then check your answers with the key at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, contact Brett for clarification.

Question 1

The part of a neuron that receives incoming signals from other neurons or from sensory receptors is the

- A) axon
- B) dendrite
- C) myelin sheath
- D) node of Ranvier

Question 2

The resting potential of a neuron is maintained primarily by

- A) the sodium – potassium pump, which moves sodium ions out of the neuron and potassium ions into the neuron
- B) sodium channels that remain permanently open in the membrane of the axon
- C) chloride ions that are pumped into the neuron
- D) the myelin sheath, which generates an electrical charge

Question 3

The division of the nervous system that consists of the brain and the spinal cord is the

- A) autonomic nervous system
- B) somatic nervous system
- C) central nervous system
- D) peripheral nervous system

Question 4

Insulin is secreted by

- A) beta cells in the islets of the pancreas
- B) the adrenal cortex
- C) the anterior pituitary gland
- D) the thyroid gland

Question 5

Before they are released into the synaptic cleft, neurotransmitter molecules are stored in

- A) the dendrites of the postsynaptic neuron
- B) the myelin sheath
- C) synaptic vesicles in the axon terminal
- D) the nodes of Ranvier

Question 6

When a stimulus causes the membrane potential of a neuron to reach threshold level, the first event that occurs is

- A) voltage – gated sodium channels open and sodium ions rush into the neuron
- B) voltage – gated potassium channels open and potassium ions rush out of the neuron
- C) synaptic vesicles release neurotransmitter into the cleft
- D) the sodium – potassium pump stops working

Question 7

Which of the following sequences correctly shows the pathway of a nerve impulse through a reflex arc?

- A) receptor, motor neuron, interneuron, sensory neuron, effector
- B) receptor, sensory neuron, motor neuron, interneuron, effector
- C) effector, sensory neuron, interneuron, motor neuron, receptor
- D) receptor, sensory neuron, interneuron, motor neuron, effector

Question 8

The photoreceptors that allow a person to see in dim light, but do not detect colour, are the

- A) cones
- B) rods
- C) ganglion cells
- D) bipolar cells

Question 9

After a meal, a rise in blood glucose stimulates the release of insulin. As blood glucose falls, insulin release decreases. This is an example of negative feedback because the response

- A) amplifies the original rise in blood glucose
- B) permanently stops all hormone release from the pancreas
- C) is carried out by the nervous system instead of hormones
- D) counteracts the original change in blood glucose

Question 10

Sound vibrations are converted into nerve impulses by

- A) the ossicles in the middle ear
- B) the tympanic membrane
- C) hair cells in the cochlea
- D) the auditory nerve

Answer Key

- | | | |
|------|------|-------|
| 1. B | 5. C | 9. D |
| 2. A | 6. A | 10. C |
| 3. C | 7. D | |
| 4. A | 8. B | |

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