

Political Science and Physiology

Political Science · Answer Key · 17 Questions

1. Which hormone, primarily produced by the adrenal glands, plays a significant role in the 'fight or flight' response, a physiological reaction that can be triggered by perceived threats, similar to how citizens might react to perceived governmental overreach?

- A) Insulin
- B) Thyroxine
- C) Cortisol**
- D) Melatonin

2. The autonomic nervous system, responsible for involuntary bodily functions, is broadly divided into two branches: the sympathetic and parasympathetic. Which branch is primarily responsible for the body's 'rest and digest' state, analogous to a stable and prosperous political climate?

- A) Sympathetic nervous system
- B) Parasympathetic nervous system**
- C) Somatic nervous system
- D) Enteric nervous system

3. Neurotransmitters like dopamine are crucial for reward pathways in the brain. In political science, the concept of 'political capital' is often discussed. Which neurotransmitter is most directly associated with pleasure and motivation, mirroring the pursuit of political success?

- A) Serotonin
- B) GABA
- C) Norepinephrine
- D) Dopamine**

4. The immune system's T cells are vital for recognizing and destroying infected or abnormal cells. This cellular defense mechanism can be compared to the checks and balances within a political system designed to identify and neutralize threats to its stability.

- A) Helper T cells
- B) Killer T cells (Cytotoxic T lymphocytes)**
- C) Regulatory T cells
- D) Memory T cells

5. The process of cellular respiration, which converts glucose into ATP (energy), relies on the intake of oxygen. This fundamental biological process can be metaphorically linked to the energy required for a functioning state or a political movement to thrive.

- A) Photosynthesis
- B) Glycolysis
- C) Krebs cycle

D) Oxidative phosphorylation

6. The hippocampus, a region of the brain, is crucial for the formation of new memories. This neural structure's function is analogous to how societies and political entities build upon historical precedents and collective memory to shape future decisions.

- A) Amygdala
- B) Cerebellum

C) Hippocampus

- D) Thalamus

7. The endocrine system uses hormones to regulate various bodily functions, including metabolism and growth. Which gland, often referred to as the 'master gland,' controls many other endocrine glands, much like a central authority in a government structure?

- A) Thyroid gland
- B) Adrenal gland

C) Pituitary gland

- D) Pancreas

8. The liver performs hundreds of vital functions, including detoxification and the production of bile. Its role in filtering and processing substances can be compared to the vetting and regulatory processes within a political system that aim to ensure the health and integrity of society.

- A) Kidneys
- B) Spleen

C) Liver

- D) Lungs

9. The human heart is a muscular organ that pumps blood throughout the body. The continuous circulation of blood, essential for delivering oxygen and nutrients, is fundamental to maintaining life, much like the continuous flow of information and resources is vital for a healthy political system.

- A) Valves
- B) Arteries
- C) Veins

D) Chambers

10. The skeletal system provides structural support and protection for the body. Its role in maintaining form and integrity can be seen as analogous to the constitutional framework or foundational laws that provide structure and stability to a political entity.

- A) Muscular system
- B) Nervous system

C) Skeletal system

- D) Integumentary system

11. The gastrointestinal tract is responsible for digestion and nutrient absorption. The efficient processing of food and waste can be metaphorically linked to a political system's ability to effectively manage its resources and societal needs.

- A) Respiratory system
- B) Urinary system
- C) Cardiovascular system

D) Digestive system

12. The adrenal medulla is the inner part of the adrenal gland. It secretes catecholamines, primarily adrenaline (epinephrine) and noradrenaline (norepinephrine). Which of these hormones is primarily released in response to stress and increases heart rate and blood pressure, mirroring a nation's response to a crisis?

- A) Cortisol
- B) Aldosterone

C) Epinephrine

- D) Estrogen

13. The myelin sheath is a fatty layer that insulates nerve fibers (axons). This insulation allows for faster transmission of nerve impulses, much like efficient communication networks are crucial for effective governance and policy dissemination.

- A) Dendrites
- B) Synapses
- C) Axons

D) Myelin sheath

14. The pancreas has both exocrine and endocrine functions. Its endocrine function involves producing hormones like insulin and glucagon to regulate blood sugar. This regulatory role is critical for maintaining homeostasis, akin to a government's role in economic stability.

- A) Thyroid gland
- B) Adrenal gland
- C) Pancreas**
- D) Pineal gland

15. Red blood cells (erythrocytes) are responsible for transporting oxygen from the lungs to the body's tissues and carbon dioxide back to the lungs. This essential transport function is vital for cellular survival, analogous to the flow of essential goods and services within a nation.

- A) White blood cells (Leukocytes)
- B) Platelets (Thrombocytes)
- C) Red blood cells (Erythrocytes)**
- D) Plasma

16. The cerebellum is primarily responsible for coordinating voluntary movements such as posture, balance, coordination, and speech, resulting in smooth and balanced muscular activity. This coordination is essential for effective action, much like effective policy implementation requires coordinated efforts.

- A) Cerebrum
- B) Brainstem
- C) Cerebellum**
- D) Hypothalamus

17. The sense of touch relies on various receptors in the skin, including mechanoreceptors that detect pressure and vibration. This direct interaction with the environment can be compared to a government's need to be responsive to the 'touch' of public sentiment.

- A) Photoreceptors
- B) Chemoreceptors
- C) Thermoreceptors
- D) Mechanoreceptors**