

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Explain why homeostasis is considered the central theme in physiology. (3 marks)
2. Distinguish between an organ and system. (3 marks)
3. Describe the homeostatic concept of negative feedback mechanism. Give examples. (3 marks)
4. Outline the functions of neutrophils, lymphocytes and platelets. (3 marks)
5. Acid-base homeostasis is an important phenomenon in mammals. Explain the role played by lungs in this homeostasis. (3 marks)
6. Describe the roles of cecum and colon in horses. (3 marks)
7. The physiological functions of glucagon oppose those of insulin. Explain. (3 marks)
8. Explain the production and functions of cerebrospinal fluid. (3 marks)
9. Give any three placental hormones and their functions. (3 marks)
10. State importance of taste reception in humans and animals. (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Describe fermentative digestion of fibrous carbohydrates in reticulorumen, and digestion of protein in simple stomach and small intestine: (20 marks)
12. Analyze the general effects of hormones produced in the medulla and cortex of adrenal glands. (20 marks)
13. Demonstrate an understanding of the general functions of blood. (20 marks)
14.
 - a) Examine five types of sensory receptors found in mammals. (10 marks)
 - b) Evaluate synaptic transmission of nervous signals. (10 marks)