

**UNIT TERMINAL OBJECTIVE**

1-2 At the completion of this unit, the EMT-Intermediate student will be understand basic anatomy and physiology and how it relates to the foundations of medicine.

**COGNITIVE OBJECTIVES**

At the completion of this unit, the EMT-Intermediate student will be able to:

- 1-2.1 Define anatomy, physiology, and pathophysiology. (C-1)
- 1-2.2 Name the levels of organization of the body from simplest to most complex, and explain each. (C-1)
- 1-2.3 Define homeostasis. (C-1)
- 1-2.4 State the anatomical terms for the parts of the body. (C-1)
- 1-2.5 Identify terminology to describe the location of body parts with respect to one another. (C-1)
- 1-2.6 Review the body cavities and the major organs within each. (C-1)
- 1-2.7 Identify the anatomical planes. (C-1)
- 1-2.8 Identify areas of the abdomen and underlying organs. (C-1)
- 1-2.9 Define each of the cellular transport mechanisms and give an example of the role of each in the body: diffusion, osmosis, facilitated diffusion, active transport. (C-1)
- 1-2.10 Define metabolism, anabolism, catabolism. (C-1)
- 1-2.11 Describe how glucose is converted to energy during cellular respiration. (C-1)
- 1-2.12 Describe the general characteristics of each of the four major categories of tissues. (C-1)
- 1-2.13 Name the three major layers of the skin. (C-1)
- 1-2.14 Describe the functions of the skeleton. (C-1)
- 1-2.15 Explain how bones are classified. (C-1)
- 1-2.16 Explain how joints are classified. (C-1)
- 1-2.17 Describe the structure and function of muscles. (C-1)
- 1-2.18 List the three types of muscles. (C-1)
- 1-2.19 State the functions of the nervous system. (C-1)
- 1-2.20 Name the divisions of the nervous system. (C-1)
- 1-2.21 Explain the structure of neurons. (C-1)
- 1-2.22 Describe the types of nerves. (C-1)
- 1-2.23 Describe the role of polarization, depolarization, repolarization in nerve impulse transmission. (C-1)
- 1-2.24 Identify the components of the central nervous system. (C-1)
- 1-2.25 State the function of the meninges and cerebrospinal fluid. (C-1)
- 1-2.26 Identify the divisions of the autonomic nervous system and define their functions. (C-1)
- 1-2.27 Discuss the regulator processes of hormonal secretion. (C-1)
- 1-2.28 State the functions of hormones. (C-1)
- 1-2.29 State the function of the hormones of the pancreas. (C-1)
- 1-2.30 State the functions of epinephrine and norepinephrine and explain their relationship to the sympathetic division of the autonomic nervous system. (C-1)
- 1-2.31 Describe the characteristics of blood and its composition. (C-1)
- 1-2.32 Explain the function of red blood cells, white blood cells and platelets. (C-1)
- 1-2.33 State the importance of blood clotting. (C-1)
- 1-2.34 Describe the location of the heart. (C-1)
- 1-2.35 Describe the function of the pericardium. (C-1)
- 1-2.36 Identify the major vessels and chambers of the heart. (C-1)
- 1-2.37 Identify the valves of the heart, and explain their functions. (C-1)
- 1-2.38 Describe coronary circulation, and explain its purpose. (C-1)
- 1-2.39 Describe the cardiac cycle. (C-1)
- 1-2.40 Explain how heart sounds are created. (C-1)
- 1-2.41 Name the parts of the cardiac conduction pathway. (C-1)
- 1-2.42 Explain the relationship between stroke volume, heart rate, and cardiac output. (C-1)

- 1-2.43 Explain how the nervous system regulates heart rate and force of contraction. (C-1)
- 1-2.44 Describe the structure of arteries and veins, and relate their structure to function. (C-1)
- 1-2.45 Describe the structure of capillaries, and explain the exchange processes that take place in capillaries. (C-1)
- 1-2.46 Describe the pathway and purpose of pulmonary circulation. (C-1)
- 1-2.47 Describe the pathway and purpose of systemic circulation. (C-1)
- 1-2.48 Define blood pressure. (C-1)
- 1-2.49 Explain the factors that maintain and regulate blood pressure. (C-1)
- 1-2.50 Describe the functions of the lymphatic system. (C-1)
- 1-2.51 Describe the immune response. (C-1)
- 1-2.52 State the function of the respiratory system. (C-1)
- 1-2.53 Describe the structure and functions of the components of the respiratory system. (C-1)
- 1-2.54 Describe normal inhalation and exhalation. (C-1)
- 1-2.55 Differentiate between ventilation and respiration. (C-1)
- 1-2.56 Explain the diffusion of gases across the alveolar-capillary junction. (C-1)
- 1-2.57 Describe how oxygen and carbon dioxide are transported in the blood. (C-1)
- 1-2.58 Explain the nervous and chemical mechanisms that regulate respiration. (C-1)
- 1-2.59 Describe the functions of the digestive system, and name its major divisions. (C-1)
- 1-2.60 Describe the water compartments and the name for the fluid in each. (C-1)
- 1-2.61 Explain how water moves between compartments. (C-1)
- 1-2.62 Explain the regulation of the intake and output of water. (C-1)
- 1-2.63 Describe the three buffer systems in body fluids. (C-1)
- 1-2.64 Explain why the respiratory system has an effect on pH, and describe respiratory compensating mechanisms. (C-1)
- 1-2.65 Explain the renal mechanisms for pH regulation of extracellular fluid. (C-1)
- 1-2.66 Describe the effects of acidosis and alkalosis. (C-1)

**AFFECTIVE OBJECTIVES**

After the completion of this unit, the EMT-Intermediate student will be able to:

- 1-2.67 Appreciate how anatomy and physiology are the foundation of medicine. (A-2)

**PSYCHOMOTOR OBJECTIVES**

None identified for this unit.