1	
CATEGORY	anatomy
QUESTION	Backward effects of left-sided heart failure include:
CORRECT ANSWER	A) Pulmonary congestion
YOUR ANSWER	A) Pulmonary congestion
RATIONALE	Deoxygenated blood from the right ventricle flows through the right and left pulmonary arteries to the right and left lung. After entering the lungs, the branches subdivide, finally emerging as capillaries which surround the alveoli and release the carbon dioxide in exchange for oxygen. The capillaries unite gradually and assume the characteristics of veins. These veins join to form the pulmonary veins, which return the oxygenated blood to the left atrium. Backflow of blood through the left atrium result in left-sided heart failure.
2	
CATEGORY	anatomy
QUESTION	Which of the following is true of the biological functions of testosterone?
CORRECT ANSWER	D) Testosterone is needed for development of male secondary sexual characteristics.
YOUR ANSWER	D) Testosterone is needed for development of male secondary sexual characteristics.
RATIONALE	Testosterone is needed for development of male secondary sexual characteristics.
3	
CATEGORY	anatomy
QUESTION	In performing a physical assessment, the nurse notes the patient has a â€œbarrelâ€• configuration to the chest. This is a consequence of:
CORRECT ANSWER	D) Increased residual lung volume
YOUR ANSWER	D) Increased residual lung volume
RATIONALE	Emphysema typically produces a barrel â€“shaped chest with an increased anterior-posterior dimension. This is a result of loss of lung parenchyma resulting in reduced elastic recoil and increased residual volume and functional residual capacity.
4	
CATEGORY	anatomy
QUESTION	Ausculation of the chest reveals bilateral fine crackles in the bases bilaterally, indicating:
CORRECT ANSWER	B) Left-sided heart failure
YOUR ANSWER	B) Left-sided heart failure
RATIONALE	This occurs because valve dysfunction creates abnormally high pressures in the cardiac chambers and in the pulmonary capillary bed. Isolated right-sided heart failure would not cause pulmonary congestion; it would present as edema in the systemic circulation.

5	
CATEGORY	anatomy
QUESTION	Which of the following is true of the biological functions of progesterone?
CORRECT ANSWER	A) Progesterone is the most important hormone associated with pregnancy.
YOUR ANSWER	A) Progesterone is the most important hormone associated with pregnancy.
RATIONALE	Progesterone is the most important hormone associated with pregnancy.
6	
CATEGORY	biology
QUESTION	What is the function of hemoglobin?
CORRECT ANSWER	A) Hemoglobin is the protein in red blood cells that is responsible for carrying oxygen to the cells of the body.
YOUR ANSWER	A) Hemoglobin is the protein in red blood cells that is responsible for carrying oxygen to the cells of the body.
RATIONALE	Hemoglobin is the protein in red blood cells that binds to oxygen and carries oxygen from the respiratory organs to the rest of the body.
7	
CATEGORY	biology
QUESTION	The diet of a patient in end-stage kidney disease is restricted in all of the following except:
CORRECT ANSWER	D) Calories
YOUR ANSWER	D) Calories
RATIONALE	Individuals with end-stage renal failure have a low GFR that makes it difficult to rid the body of fluids, potassium and nitrogenous waste products, therefore these substances may be restricted. Nitrogenous wastes are produced by metabolism of proteins. Caloric needs are not reduced as a result of renal failure.
8	
CATEGORY	biology
QUESTION	Closed drainage systems work to re-expand a lung after pneumothorax by:
CORRECT ANSWER	A) Re-establishing the normal negative intrapleural pressure.
YOUR ANSWER	A) Re-establishing the normal negative intrapleural pressure.
RATIONALE	The effect of closed chest drainage is to re-establish negative pressure within the pleural space to encourage re-expansion of the affected lung alveoli.
9	
CATEGORY	biology
QUESTION	Why is heat an effective means of sterilization?
CORRECT ANSWER	A) Heat is an effective means of sterilization because it destroys the proteins of microbial life-forms including fungi, bacteria and viruses.
YOUR ANSWER	A) Heat is an effective means of sterilization because it destroys the proteins of microbial life-forms including fungi, bacteria and viruses.
RATIONALE	Heat is an effective means of sterilization because it destroys the proteins of microbial life-forms including fungi, bacteria and viruses.

10	
CATEGORY	biology
QUESTION	The signs and symptoms of anemia are all related to what common pathophysiologic feature of the condition?
CORRECT ANSWER	B) Decreased blood oxygen content
YOUR ANSWER	B) Decreased blood oxygen content
RATIONALE	A majority of oxygen is carried to tissues in the blood stream bound to hemoglobin. So, when hemoglobin falls, oxygen carrying capacity of the blood falls accordingly. Anemia does not increase oxygen consumption or affect hemoglobin affinity for oxygen.
11	
CATEGORY	chemistry
QUESTION	What effect does glycogen metabolism have on glucose levels?
CORRECT ANSWER	A) Glycogen metabolism traps glucose within liver cells and increases storage of glucose in the form of glycogen. These processes decrease blood glucose levels.
YOUR ANSWER	A) Glycogen metabolism traps glucose within liver cells and increases storage of glucose in the form of glycogen. These processes decrease blood glucose levels.
RATIONALE	Glycogen metabolism increases the glucose levels within cells, while decreasing glucose levels in blood. Insulin stimulates uptake of glucose from the bloodstream into cells and phosphorylation of glucose by the enzyme glucokinase as well as glycogen synthase, the first enzyme in glycogen synthesis. Glucose is trapped within the liver cells, resulting in increased glucose storage, in the form of glycogen. In turn, glucose levels in blood is decreased.
12	
CATEGORY	chemistry
QUESTION	Laboratory test results indicative of thrombocytopenia, in addition to a low platelet count, would be:
CORRECT ANSWER	A) Increased PT
YOUR ANSWER	A) Increased PT
RATIONALE	Prolonged bleeding time with normal clotting cascade tests (PT and aPTT) is indicative of a platelet disorder. If the PT or aPTT is prolonged, then another etiology such as clotting factor deficiencies must be considered. Decreased RBC count is a feature of aplastic anemia, but it rarely occurs with thromobocytopenia unless there is hemorrhage.
13	
CATEGORY	chemistry
QUESTION	List the enzymes whose levels are elevated in the blood serum following an MI.
CORRECT ANSWER	A) CPK, LDH, AST, and SGOT
YOUR ANSWER	A) CPK, LDH, AST, and SGOT
RATIONALE	CPK, LDH, AST and SGOT are primary cardiac enzymes released with cardiac tissue necrosis. The enzymes show elevation 8-12 hours after infarction and therefore, are diagnostic indicators of MI.

14	
CATEGORY	chemistry
QUESTION	What is the physiological function of gluconeogenesis?
CORRECT ANSWER	A) Gluconeogenesis is production of glucose from non-carbohydrate molecules in times when blood glucose levels are low. This ensures proper function of brain and red blood cells, which only use glucose as fuel.
YOUR ANSWER	A) Gluconeogenesis is production of glucose from non-carbohydrate molecules in times when blood glucose levels are low. This ensures proper function of brain and red blood cells, which only use glucose as fuel.
RATIONALE	Gluconeogenesis is a metabolic pathway that results in the generation of glucose to maintain blood glucose levels when levels fall.
15	
CATEGORY	chemistry
QUESTION	A calculated ABG value that indicates excess or insufficiency of sodium bicarbonate in the system is:
CORRECT ANSWER	B) Base excess
YOUR ANSWER	B) Base excess
RATIONALE	The base excess indicates the amount of excess or insufficient level of bicarbonate in the system.
16	
CATEGORY	pathophysiology
QUESTION	A patient with a prolonged episode of nausea, vomiting and diarrhea has an ABG ordered on admission. You might expect the results to show:
CORRECT ANSWER	A) Metabolic acidosis
YOUR ANSWER	A) Metabolic acidosis
RATIONALE	Diarrhea and intestinal fistulas may cause decreased levels of base. Signs and symptoms of metabolic acidosis include nausea and vomiting and diarrhea.
17	
CATEGORY	pathophysiology
QUESTION	Which of the following may be a reason to order an ABG on a patient?
CORRECT ANSWER	D) All of the above
YOUR ANSWER	D) All of the above
RATIONALE	ABGs are ordered in most instances in which a patient experiences dyspnea or signs of respiratory distress.
18	
CATEGORY	pathophysiology
QUESTION	Interpret the following ABG results. pH 7.48 pCOâ,, 42 HCOâ,ƒ 30
CORRECT ANSWER	D) Metabolic alkalosis without compensation
YOUR ANSWER	D) Metabolic alkalosis without compensation
RATIONALE	pH 7.48 (alkaline), pCO2 42 (normal), HCO3 30 (alkaline). Step one of arterial blood gas interpretation requires that you identify whether the pH, pCO2 and HCO3 are abnormal. The two matching values determine what the problem is. When an acid-base disorder is either uncompensated or partially compensated, the pH remains outside the normal range.

19	
CATEGORY	pathophysiology
QUESTION	All of the following might be a cause of respiratory acidosis except:
CORRECT ANSWER	D) Hyperventilation
YOUR ANSWER	D) Hyperventilation
RATIONALE	Answers A-C might be a cause of respiratory acidosis.
20	
CATEGORY	pathophysiology
QUESTION	Interpret the following ABG results. pH 7.50 pCOâ,, 29 HCOâ,ƒ 24
CORRECT ANSWER	C) Respiratory alkalosis without compensation
YOUR ANSWER	C) Respiratory alkalosis without compensation
RATIONALE	pH 7.50 (alkaline), pCO2 29 (alkaline), HCO3 24 (normal). Step one of arterial blood gas interpretation requires that you identify whether the pH, pCO2 and HCO3 are abnormal. The two matching values determine what the problem is. When an acid-base disorder is either uncompensated or partially compensated, the pH remains outside the normal range.
21	
CATEGORY	pharmacology
QUESTION	Aspirin and NSAIDs are causative factors for the development of peptic ulcer disease because they:
CORRECT ANSWER	C) Damage the mucosal barrier
YOUR ANSWER	C) Damage the mucosal barrier
RATIONALE	Aspirin and NSAIDs are medication s that inhibit the enzyme cyclo-oxygenase, which is important in the production of prostaglandins. These medications are known to impair normal function of the mucosal barrier that protects the epithelial cells in the stomach from the acidic environment of the gastric contents. Most peptic ulcers are associated either with chronic NSAID use or with H. pylori infection.
22	
CATEGORY	pharmacology
QUESTION	How do sulfa drugs selectively kill bacteria while causing no harm to humans?
CORRECT ANSWER	C) Humans are not harmed because we do not synthesize our own folic acid. It is obtained in the diet.
YOUR ANSWER	C) Humans are not harmed because we do not synthesize our own folic acid. It is obtained in the diet.
RATIONALE	The vitamin, Folic acid, is needed for the synthesis of a coenzyme, responsible for producing the amino acid methionine and the purine and pyrimidine nitrogenious bases for DNA and RNA. Sulfa drug binds to the enzyme, prohibiting the production of folic acid, and leading to the cessation of biosynthesis of methionine and nitrogenous bases. These changes destroy microorganism. As we obtain folic acid through our diet, rather than creating it ourselves, there are no harmful effects.

23	
CATEGORY	pharmacology
QUESTION	An intervention that would contribute toward the healing of a peptic ulcer is:
CORRECT ANSWER	B) Blocking or neutralizing of acid secretion
YOUR ANSWER	B) Blocking or neutralizing of acid secretion
RATIONALE	Blocking acid secretion into the lumen of the stomach or neutralizing the secreted acid with ingested antacids are standard therapies for peptic ulcers. These measures will reduce the proteolytic activity of pepsin in the stomach, which is inactivated at less acidic pH as well as reduce the damage from the acid itself.
24	
CATEGORY	pharmacology
QUESTION	Therapeutic interventions focused on increasing the oxygen supplied to the heart and decreasing the heartâ€™s demand for oxygen include:
CORRECT ANSWER	C) Morphine sulphate
YOUR ANSWER	C) Morphine sulphate
RATIONALE	Morphine can reduce myocardial oxygen consumption by reducing the preload of the heart. It does this by causing venodilation and pooling of blood in the periphery. If the person is experiencing pain or anxiety, morphine can reduce the sympathetic activation of the heart caused by these symptoms. The other drugs might be expected to improve oxygen delivery to the heart but would not decrease oxygen utilization by the heart.
25	
CATEGORY	pharmacology
QUESTION	What occurs when glycogen metabolism is stimulated by insulin?
CORRECT ANSWER	B) Insulin stimulates glycogen synthase, the first enzyme in glycogen synthesis. It also stimulates removal of glucose from the bloodstream into cells and phosphorylation of glucose by the enzyme glucokinase.
YOUR ANSWER	B) Insulin stimulates glycogen synthase, the first enzyme in glycogen synthesis. It also stimulates removal of glucose from the bloodstream into cells and phosphorylation of glucose by the enzyme glucokinase.
RATIONALE	Glycogen metabolism increases the glucose levels within cells, while decreasing glucose levels in blood. Insulin stimulates uptake of glucose from the bloodstream into cells and phosphorylation of glucose by the enzyme glucokinase as well as glycogen synthase, the first enzyme in glycogen synthesis. Glucose is trapped within the liver cells, resulting in increased glucose storage, in the form of glycogen. In turn, glucose levels in blood is decreased.