CTAS A&P I (BI 301) Self-Assessment Practice Questions

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A&P I -- REVIEW SECTION I – Intro to A&P, Biological Molecules

1) Which of the following is arranged in correct order from the simplest to most complex?

- a. cellular, tissue, molecular, system, organ, organism
- b. molecular, cellular, tissue, organ, system, organism
- c. tissue, cellular, molecular, organ, system, organism
- d. organ, organism, molecular, cellular, tissue, system
- e. organism, system, organ, tissue, cellular, molecular
- 2) Which of the following is **not** an example of correct anatomical position?
 - a. Body standing erect on two feet, ventral surface forward
 - b. Palms facing forwards
 - c. Pinky fingers medial to thumbs
 - d. Arms held above shoulders
 - e. Each of the above are examples of correct anatomical position.
- 3) An anatomical term that means the same as anterior is:
 - a. Ventral
 - b. Dorsal
 - c. Superior
 - d. Cephalad
 - e. Caudal
- 4) The knee is _____ to the umbilicus.
 - a. proximal
 - b. distal
 - c. lateral
 - d. medial
 - e. horizontal

5) Which of the following terms refers to the upper leg?

- a. Cervical
- b. brachial
- c. femoral
- d. crural
- e. sural

6) Match body plane to how that plane divides the body:

Transverse Plane	A) SuperiorInferior
Sagittal plane	B) Anteriorposterior
Frontal plane	C) Left—Right
	D) Proximal—Distal
	E) Superficial—Deep

Transverse Plane = A, Sagittal plane = C, Frontal Plane = B

Transverse Plane = B, Sagittal plane = A, Frontal Plane = D

Transverse Plane = E, Sagittal plane = C, Frontal Plane = B

Transverse Plane = A, Sagittal plane = B, Frontal Plane = C

Transverse Plane = D, Sagittal plane = C, Frontal Plane = E

7) The plane that separates the left and right lungs is:

- a. the mediastinum.
- b. parasagittal at the pleural cavity
- c. transverse at the mediastinum
- d. midsagittal on the spinal column
- e. superior to the abdominal cavity
- 8) The visceral serosa is the membrane that covers:
 - a. Abdominal organs
 - b. Abdominal wall
 - c. Mediastinal organs
 - d. Skeletal muscle
 - e. The blood-brain barrier
- 9) Which of the following is **not** an example of the body maintaining homeostasis?
 - a. Perspiration during a hot day
 - b. Increasing respiratory rate during moderate exercise
 - c. Blood clot formation to prevent excessive bleeding.
 - d. Looking both ways before crossing Queens Boulevard during rush hour.
 - e. Decreasing urine output during state of dehydration.

10) The union of two atoms with opposite charges formed when electrons are transferred from one atom to another is called a(n):

- a. ion
- b. molecule
- c. hydrogen bond
- d. ionic bond
- e. Covalent bond

11) Failure to maintain homeostasis can result in which of the following:

- a. Loss of function.
- b. abnormal signs and symptoms.
- c. disease.
- d. loss of life.
- e. Each of these answers results from a failure to maintain homeostasis.
- 12) A cell or structure that detects a stimulus such as heat is called a(n):
 - a. Receptor
 - b. Control center
 - c. Effector
 - d. Skeletal muscle
 - e. Efferent fiber

13) True or False: In <u>positive feedback</u> a stimulus produces a response that inhibits or decreases the initial stimulus?

- a. True
- b. False

14) A chemical reaction where a water molecule is given off is called _____, and these reactions create ______ sized molecules.

- a. Dehydration synthesis; larger
- b. Dehydration synthesis; smaller
- c. Hydrolysis; larger
- d. Hydrolysis; smaller
- e. Catalysis; smaller

15) What happens to molecular motion (kinetic energy) when the temperature of a substance is increased?

- a. Molecular motion speeds up.
- b. Molecular motion does not change in a stable molecule.
- c. Molecular motion slows down.
- d. Temperature has no effect on the kinetic energy of a molecule.
- e. Potential energy is increased as kinetic energy is decreased.
- 16) Which of the following statements is **correct** regarding enzymes?
 - a. Enzymes are not consumed during a chemical reaction.
 - b. Enzymes, which are proteins, function as biological catalysts.
 - c. Enzymes lower the activation energy required for a reaction.
 - d. Enzymes affect only the rate of a chemical reaction.
 - e. Each of these statements regarding enzymes are true statements.
- 17) Which pH is closest to normal body pH?
 - a. pH 1.0
 - b. pH 6.8
 - c. pH 7.0
 - d. pH 7.4
 - e. pH 7.5

18) Which of the following substances would have the highest H⁺ ion concentration?

- a. lemon juice, pH = 2
- b. urine, pH = 6
- c. tomato juice, pH = 4
- d. white wine, pH = 3
- e. stomach secretions, pH = 1
- 19) Carbohydrates, lipids, and proteins are classified as:
 - a. organic molecules
 - b. inorganic molecules
 - c. tissues
 - d. organelles
 - e. elements

- 20) When a disaccharide undergoes hydrolysis:
 - a. two new monosaccharides are formed.
 - b. a disaccharide is formed.
 - c. a polysaccharide is formed.
 - d. a starch is formed.
 - e. a disaccharide is broken down as a molecule of water is given off.

21) Which of the following organic molecules: forms essential structural components of cell, provides a significant energy reserve, helps to maintain body temperature, cushions organs against shocks?

- a. Proteins
- b. Carbohydrates
- c. Lipids
- d. Nucleic acids
- e. Each of these answers is correct.
- 22) Denaturation is best defined as:
 - a. Loss of protein structure and likely function due to temperature and/or pH changes in local environment.
 - b. Loss of a water molecule, a result increased temperature.
 - c. Conversion of an organic molecule into an inorganic molecule.
 - d. The stability of a protein molecule despite changes in pH and/or temperature.
 - e. None of these statements are correct regarding denaturation.

ANSWER KEY: A&P I -- Review Section I

1 b, 2 d, 3 a, 4 b, 5 c, 6 a, 7 d, 8 a, 9 d, 10 d, 11 e, 12 a, 13 b, 14 a, 15 a, 16 e, 17 d, 18 e, 19 a,

20 a, 21 c, 22 a

A&P I – REVIEW SECTION II – Cell Theory, Tissues, Integumentary System

23) What is the name of the structure that functions to separate the internal contents of a human cell from the extracellular environment?

- a. Plasmalemma (cell membrane)
- b. Cytoplasm
- c. Cell wall
- d. Integument
- e. Nuclear envelope

24) Ribosomes are composed of protein and?

- a. mRNA
- b. rRNA
- c. ATP
- d. DNA
- e. ADP + inorganic Phosphate

25) Which of the following has the **least** effect on diffusion of a substance across the cell membrane?

- a. the availability of ATP
- b. the presence of membrane channels for the substance
- c. its charge of the substance
- d. its concentration gradient
- e. its lipid solubility
- 26) *Facilitated diffusion* differs from ordinary diffusion in that:
 - a. facilitated diffusion consumes ATP.
 - b. facilitated diffusion moves molecules from an area of lower concentration to an area of higher concentration.
 - c. the rate of facilitated diffusion is limited by the number of available carrier proteins.
 - d. facilitated diffusion never eliminates the concentration gradient.
 - e. Each of these statements correctly differentiates facilitated diffusion from ordinary diffusion.
- 27) Which statement about tissues is incorrect?
 - a. All the organs of an organ system are composed of a single tissue type.
 - b. A tissue is composed of a several types of cells.
 - c. An organ combines several different tissues.
 - d. Tissues may be visible to the unaided eye.
 - e. Each of these statements are incorrect.
- 28) You would find transitional epithelium lining the:
 - a. conducting portion of respiratory system, such as the trachea.
 - b. urinary bladder.
 - c. secretory portions of the pancreas.
 - d. surface of the skin.
 - e. stomach.

- 29) When normal tissue is permanently replaced by fibrous tissue, the process is called:
 - a. inflammation
 - b. apoptosis
 - c. fibrosis
 - d. tendinosis
 - e. necrosis
- 30) The two components of the integumentary system are the:
 - a. cutaneous membrane and hypodermis.
 - b. cutaneous membrane and accessory structures.
 - c. integument and hypodermis.
 - d. epidermis and dermis
 - e. epidermis and superficial fascia.
- 31) Each of the following are true of epidermal ridges **<u>except</u>** that they:
 - a. extend into the hypodermis.
 - b. increase surface area and friction on fingertips.
 - c. cause ridge patterns on the surface of the skin.
 - d. produce patterns that are determined partially genetically.
 - e. interconnect with the dermal papillae.
- 32) Which of the following is **not** a form of energy storage by the human cell?
 - a. Triglycerides
 - b. Fat
 - c. Cellulose
 - d. Glycogen
 - e. Protein
- 33) Each of the following requires the presence of oxygen, except?
 - a. All these processes require the presence of oxygen.
 - b. Glycolysis
 - c. Electron transport chain
 - d. Oxidative phosphorylation
 - e. Citric Acid Cycle
- 34) The smallest living unit within the human body is:
 - a. a protein
 - b. a peptide
 - c. a tissue
 - d. an organ
 - e. a cell

- 35) The extracellular fluid in most tissues is called ______ fluid.
 - a. Interstitial
 - b. Cerebrospinal
 - c. Cytoplasmic
 - d. Lymph
 - e. Peripheral
- 36) Proteins that exist within the cytosol and plasma membrane that accelerate metabolic reactions are called:
 - a. Carbohydrates
 - b. Enzymes
 - c. Lipids
 - d. Messengers
 - e. lons
- 37) Microvilli are found on cells of the inner surface of the small intestine, where they
 - a. slow the movement of food through the digestive tract.
 - b. increase the surface area for nutrient absorption.
 - c. sense the presence of food bolus in the digestive tract.
 - d. push food along the digestive tract.
 - e. protect the intestinal lining from irritants or toxins in the food.
- 38) Which organelle would be expected to be plentiful in the cytosol of macrophages?
 - a. Centrioles
 - b. Lysosomes
 - c. Mitocondria
 - d. Ribosomes
 - e. Nuclei
- 39) Each of the following are functions of epithelial tissue, **except:**
 - a. Each of the following are functions of epithelial tissue
 - b. Act as a barrier to prevent substances from passing through epithelial layers
 - c. Permit sensation via a large sensory nerve supply
 - d. Temperature control
 - e. Assist the immune system in protection from pathogens, such as COVID-19
- 40) Which of the following is **not** an example of connective tissue:
 - a. Fat
 - b. Myocardium
 - c. Blood
 - d. Periosteum
 - e. Each are examples of connective tissue

- 41) Connective tissue provides each of the following functions except:
 - a. Storage of energy reserves
 - b. Ability to fight microorganisms, such as COVID-19
 - c. Transportation of waste from tissues of the body
 - d. Exchange of oxygen and carbon dioxide gases
 - e. Each of the following are functions performed by connective tissue

42) Glands that secrete hormones into the interstitial fluid are _____ glands.

- a. Endocrine
- b. Interstitial
- c. Exocrine
- d. Merocrine
- e. Holocrine
- 43) The type of connective tissue features a fluid matrix?
 - a. blood
 - b. cartilage
 - c. bone
 - d. adipose
 - e. loose areolar

44) Keratin is found in largest quantity in the epidermal layer called the stratum:

- a. corneum.
- b. lucidum.
- c. basale.
- d. granulosum.
- e. spinosum.
- 45) The epidermis of the skin is composed of what type of tissue?
 - a. keratinized stratified squamous epithelium
 - b. simple squamous epithelium
 - c. transitional epithelium
 - d. areolar connective tissue
 - e. nonkeratinized stratified squamous epithelium
- 46) While wearing thin flip-flops as he walked his dog at night, Nabil stepped on a broken glass bottle that penetrated through the sole of his foot to the dermis. How many layers of epidermis did the thorn penetrate?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5

- 47) A deficiency in Vitamin D3 (cholecalciferol) may cause:
 - a. Rickets
 - b. Pernicious anemia
 - c. Scurvy
 - d. Covid-19
 - e. Alopecia (hairloss)

ANSWER KEY: A&P I -- Review Section II

23 a, 24 b, 25 a, 26 e, 27 a, 28 b, 29 c, 30 d, 31 a, 32 c, 33 b, 34 e, 35 e, 36 b, 37 b, 38 b, 39 b, 40 b, 41 e, 42 c, 43 a, 44 a, 45 a, 46 e, 47 a

A&P I -- REVIEW SECTION III – Skeletal System, Introduction to Nervous System

- 48) The region of a long bone between the end and the shaft is known as the:
 - a. diaphysis
 - b. epiphysis
 - c. periosteum
 - d. metaphysis
 - e. medullary cavity

49) Which of the following bones is classified as "irregular" in shape?

- a. patella
- b. frontal
- c. vertebra
- d. metatarsal
- e. ulna
- 50) The space occupied by an osteocyte is called:
 - a. a Volkmann's canal
 - b. a lacuna
 - c. a trabecula
 - d. a Haversian canal
 - e. a canaliculus
- 51) The following are major steps in the process of intramembranous ossification. What is the correct order of events?
 - 1. Clusters of osteoblasts form osteoid that becomes mineralized.
 - 2. Osteoblasts differentiate within mesenchymal connective tissue.
 - 3. Spicules of bone radiate out from the ossification centers.
 - 4. Mesenchymal cells aggregate.
 - a. 4, 1, 2, 3
 - b. 2, 1, 3, 4
 - c. 4, 2, 1, 3
 - d. 2, 3, 1, 4
 - e. 3, 4, 2, 1
- 52) When the epiphyseal plate is replaced by bone,
 - a. puberty begins
 - b. interstitial bone growth begins
 - c. appositional bone growth begins
 - d. long bones have reached their adult length
 - e. the bone becomes more brittle

- 53) Functions of astrocytes include each of the following, **except:**
 - a. maintaining the blood-brain barrier
 - b. conducting action potentials
 - c. guiding neuron development
 - d. responding to neural tissue damage
 - e. forming a three-dimensional framework for the CNS
- 54) A shift of the resting transmembrane potential toward 0 mV is called:
 - a. potential difference
 - b. depolarization
 - c. hyperpolarization
 - d. polarization
 - e. repolarization
- 55) The following are the main steps in the generation of an action potential.
 - 1. Sodium channels are inactivated.
 - 2. Voltage-gated potassium channels open and potassium moves out of the cell, initiating repolarization.
 - 3. Sodium channels regain their normal properties.
 - 4. A graded depolarization brings an area of an excitable membrane to threshold.
 - 5. A temporary hyperpolarization occurs.
 - 6. Sodium channel activation occurs.
 - 7. Sodium ions enter the cell and depolarization occurs.

What is the proper sequence of these events?

- a. 4, 6, 7, 3, 2, 5, 1
- b. 4, 6, 7, 1, 2, 3, 5
- c. 6, 7, 4, 1, 2, 3, 5
- d. 2, 4, 6, 7, 1, 3, 5
- e. 4, 2, 5, 6, 7, 3, 1
- 56) The effect that a neurotransmitter has on the postsynaptic membrane depends on the:
 - a. frequency of neurotransmitter release
 - b. nature of the neurotransmitter
 - c. characteristics of the receptors
 - d. quantity of neurotransmitters released
 - e. Each of these statements regarding neurotransmitter effect are correct

- 57) Which is the primary functional neurological component found in the white matter of the spinal cord?
 - a. unmyelinated axons
 - b. neuroglia
 - c. Schwann cells
 - d. myelinated axons
 - e. nodes of Ranvier
- 58) The ______ innervates the ventrolateral body surface, structures in the body wall, and the limbs.
 - a. white rami communicantes
 - b. gray rami communicantes
 - c. posterior rami
 - d. anterior rami
 - e. dermatomes
- 59) Which of the following is **incorrect** regarding osteocytes?
 - a. Osteocytes maintain protein and mineral content of matrix
 - b. Osteocytes take part in repair of damaged bone
 - c. Each of these statements is true regarding osteocytes
 - d. Osteocytes are located within lacunae
 - e. Osteocytes have 50 or more nuclei
- 60) Which of the following substances is <u>not</u> normally present in bone?
 - a. calcium phosphate
 - b. collagen fibers
 - c. calcium carbonate
 - d. chondroitin sulfate
 - e. hydroxyapatite
- 61) How would removing hydroxyapatite from bone matrix affect the physical properties of a bone?
 - a. The bone would be less flexible
 - b. The bone would be stronger
 - c. The bone would be more brittle
 - d. The bone would be more flexible
 - e. The bone would be more compressible

- 62) In fracture repair of bone, which cell type(s) is/are <u>not</u> involved?
 - a. Osteoblasts
 - b. Osteoclasts
 - c. Fibroblasts
 - d. Chondroblasts
 - e. Each of these cell types is involved in fracture repair
- 63) When blood Ca²⁺ level is below normal, the cells that help free calcium from bone to raise blood calcium levels (and maintain homeostasis) are called:
 - a. osteolytics
 - b. osteoclasts
 - c. osteoblasts
 - d. osteons
 - e. osteocytes
- 64) The neuro-glial cell that is analogous in function to the Schwann cell of the PNS:
 - a. astrocytes
 - b. satellite cells
 - c. oligodendrocytes
 - d. microglia
 - e. None of these
- 65) At which of the following electrical potentials do sodium channels close and potassium channels open?
 - a. -90 mV
 - b. -70 mV
 - c. -60 mV
 - d. 0 mV
 - e. +30 mV
- 66) Which of the following begins with the opening of sodium channels in the axon membrane?
 - a. depolarization
 - b. repolarization
 - c. hyperpolarization
 - d. increased negative charge inside the membrane
 - e. inhibition

67) Which of the following types of nerve fiber possesses the **slowest** speed of impulse propagation?

- a. type A
- b. type B
- c. type C
- d. type D
- e. unmyelinated
- 68) The cell bodies of sensory neurons are:
 - a. Located outside the body of the spinal cord
 - b. Located in the ventral ganglia
 - c. Located posterior to the cell bodies of motor neurons
 - d. Located in ganglia that is posterolateral to the body of the spinal cord
 - e. Located close to sensory receptors
- 69) Brendan contracts a viral disease that destroys cells in the posterior gray horns in his spinal cord.
 - As a result, which of the following would you expect?
 - a. loss of vibratory sensation in his feet
 - b. inability to breathe
 - c. problems with moving his arms
 - d. uncontrollable sweating of his feet
 - e. problems moving his legs
- 70) The connective tissue covering individual axons of nerves is the:
 - a. endoneurium
 - b. endomysium
 - c. perineurium
 - d. epineurium
 - e. epimysium
- 71) Place the following events of a reflex arc in the correct order:
 - 1. motor neuron activation
 - 2. sensory neuron activation
 - 3. sensory receptor activation
 - 4. Information processing
 - 5. effector response
 - a. 3, 2, 4, 1, 5
 - b. 2, 3, 4, 5, 1
 - c. 1, 2, 3, 4, 5
 - d. 5, 4, 1, 3, 2
 - e. 2, 5, 1, 3, 4

ANSWER KEY: A&P I -- Review Section III

48 d, 49 c, 50 b, 51 c, 52 d, 53 b, 54 b, 55 b, 56 e, 57 d, 58 d, 59 e, 60 d, 61 d, 62 e, 63 b, 64 c,

65 e, 66 a, 67 e, 68 d, 69 a, 70 a, 71 a

A&P I -- REVIEW SECTION IV – Brain, Nervous Pathways, Autonomic Nervous System, Digestive System

72) In order to famously sign the Declaration of Independence, John Hancock's primary motor cortex must receive input from which area first?

- a. postcentral gyrus
- b. primary sensory cortex
- c. somatic sensory association area
- d. premotor cortex
- e. olfactory association area

73) A person touches you lightly with a ball of cotton. Which two areas of the brain allow you to <u>feel</u> <u>and interpret</u> this touch?

- a. primary motor cortex and the primary sensory cortex
- b. primary sensory cortex and the somatic sensory association area
- c. primary sensory cortex and the visceral sensory association area
- d. primary motor cortex and the somatic motor association area
- e. gustatory cortex and the gustatory association area
- 74) Which group of fibers in cerebral white matter serve to connect neighboring gyri?
 - a. Arcuate fibers (of Association fibers)
 - b. Longitudinal fasciculi (of Association fibers)
 - c. Corpus callosum
 - d. Anterior commissural fibers
 - e. Projection fibers
- 75) Which of the following is true regarding the cerebrum?
 - a. It is the largest part of the brain and controls all conscious thoughts and intellectual functions
 - b. Processes somatic sensory and motor information
 - c. Features the left and right hemisphere connected by corpus collosum
 - d. Contains gyri and sulci of gray matter on the outside
 - e. Each of these statements are true regarding the cerebrum

80) Which of the following structures is also known as the "motivational system"?

- a. Cingulate gyrus
- b. Dentate gyrus
- c. Parahippocampal gyrus
- d. Hippocampus ("sea horse")
- e. Amygdala
- f. Fornix
- g. Each of the above are a part of the Limbic System, which is known as the motivational system!
- 81) Which of the following are <u>functions of the hypothalamus</u>?
 - a. Secretion of hormones
 - b. Regulation of body temperature
 - c. Controls autonomic function at pons respiration rate, blood pressure, heart rate, digestion
 - d. Coordination between voluntary and autonomic functions
 - e. Coordination and regulation of nervous AND endocrine systems
 - f. Regulation of circadian rhythms (day-night cycles)
 - g. Subconscious control of skeletal muscle by stimulating motor areas of brain
 - h. Produces emotions and behavioral drives, like hunger, thirst, satiety
 - i. Each of these statements are functions of the hypothalamus
- 82) Which of the following is a function of the <u>thalamus</u>?
 - a. secrete cerebrospinal fluid
 - b. secrete melatonin
 - c. process sensory information and relay it to the cerebrum
 - d. store memories
 - e. regulate food intake

83) Which of the following is an *incorrect* statement regarding the Medulla oblongata?

- a. Most inferior part of brainstem
- b. Coordinates complex autonomic reflexes
- c. Control visceral functions
- d. Sensory and motor nuclei of CNS
- e. Relay stations for communication between brain and spinal cord
- f. Each of these statements are correct regarding the medulla oblongata

- 84) What are the main arteries supplying the brain?
 - a. Internal carotids
 - b. External carotids
 - c. Vertebral arteries
 - d. A & C only
 - e. A, B, and C

85) CSF is formed by:

- a. Ependymal cells located in the choroid plexus
- b. Through ventricles of the brain
- c. The central canal of spinal cord
- d. The subarachnoid space
- e. The arachnoid villi
- 86) Which of the following structures help provide physical protection of the brain?
 - a. Bones of the cranium
 - b. Cranial meninges (Dura mater, Arachnoid mater, Pia mater)
 - c. Cerebrospinal fluid (CSF)
 - d. Biochemical isolation Blood brain barrier
 - e. Each of the above help provide physical protection of the brain
- 87) The passageway between the third ventricle and fourth ventricle for the flow of CSF is the:
 - a. central foramen (Foramen of Magendie)
 - b. interventricular foramen (Foramen of Monro)
 - c. cerebral aqueduct (Aqueduct of Sylvius)
 - d. lateral foramen (Foramen of Luschka)
 - e. central canal

88) Which of the following areas provides the primary link between the nervous and endocrine systems?

- a. midbrain
- b. medulla oblongata
- c. pons
- d. cerebrum
- e. hypothalamus

- 89) Sensory information from all parts of the body is routed to:
 - a. the prefrontal cortex.
 - b. the cerebellum.
 - c. the primary motor cortex.
 - d. the somatosensory cortex.
 - e. Wernicke's area.

90) In which of the following pathways does sensory information remain entirely unconscious (note: this question may have more than one correct answer)?

- a. Lateral Spinothalamic
- b. Anterior Spinothalamic
- c. Posterior Column (gracile, cuneate fascicles)
- d. Spinocerebellar Pathway
- e. Visceral Sensory Pathways

91) Damage to which class of neurons would eliminate both <u>voluntary AND reflex</u> control over its innervated motor unit?

- a. Upper Motor Neuron
- b. Lower Motor Neuron
- c. 1st order neuron
- d. 2nd order neuron
- e. 3rd order neuron

92) Which ascending tract carries the sensations for fine touch and vibration?

- a. anterior spinothalamic
- b. corticospinal
- c. posterior (dorsal) column
- d. lateral spinothalamic
- e. spinocerebellar

93) Which motor tract features decussation at the Pyramids within the medulla oblongata?

- a. Lateral spinothalamic
- b. Anterior spinothalamic
- c. Lateral corticospinal
- d. Anterior corticospinal
- e. Anterior spinocerebellar

- 94) Which motor pathway does not have an end in the spinal cord?
 - a. corticobulbar tract
 - b. corticospinal tract
 - c. vestibulospinal tract
 - d. tectospinal tract
 - e. rubrospinal tract
- 95) Where are preganglionic neurons located in the sympathetic nervous system?
 - a. cervical and sacral segments of the spinal cord
 - b. sacral segments of the spinal cord
 - c. mesencephalon
 - d. thoracic and lumbar segments of the spinal cord
 - e. anterior cerebellum

96) Within which of the following areas do postganglionic fibers originate that innervate targets in the body wall or thoracic cavity?

- a. collateral ganglia.
- b. Intramural ganglia.
- c. ganglia (suprarenal) within the adrenal medulla.
- d. sympathetic chain ganglia.
- e. white rami communicantes.

97) Reggio has a regular blood pressure reading of 160/100. Which of the following mechanisms of action for a medication might be best for him?

- a. a drug that blocks alpha-1 receptors in smooth muscle
- b. a drug that blocks alpha-2 receptors in adipose tissue
- c. a drug that increases cAMP levels in cardiac muscle tissue
- d. a drug that blocks beta receptors in cardiac muscle tissue
- e. a drug that blocks alpha-1 receptors in smooth muscle and blocks beta receptors in cardiac muscle tissue

98) Intramural ganglia in the digestive, urinary, and reproductive organs are innervated by which type of nerves?

- a. pelvic
- b. splanchnic
- c. chain
- d. spinal
- e. collateral

99) Which of the following is an <u>accessory</u> organ of *digestion?*

- a. appendix
- b. pancreas
- c. spleen
- d. colon
- e. esophagus
- 100) Which is the submucosal plexus?
 - a. component of mucosa
 - b. sensory neural network
 - c. secretes a watery fluid
 - d. coordinates activity of muscularis externa
 - e. loose connective tissue layer containing blood vessels
- 101) Which organ is responsible for dehydration and compaction of indigestible materials?
 - a. small intestine
 - b. gallbladder
 - c. transverse colon
 - d. stomach
 - e. anus

102) Aparna is experiencing indigestion and pain. The doctor also notes ascites formation in her abdomen. What is ascites?

- a. buildup of bile in the bile duct
- b. gallstones blocking the cystic duct
- c. inflammation of the appendix
- d. buildup of peritoneal fluid in the peritoneal cavity
- e. buildup of pancreatic juice in the pancreas
- 103) Blockage of the common hepatic duct would interfere with digestion of:
 - a. proteins
 - b. fats
 - c. disaccharides
 - d. complex carbohydrates
 - e. vitamins

104) Benoit is a chronic alcoholic with cirrhosis of the liver, a condition in which liver cells die and are replaced by connective tissue. Which of the following signs would you **not** expect to observe?

- a. increased clotting time
- b. jaundice
- c. portal hypertension and ascites
- d. decrease in plasma protein production
- e. impaired erythropoiesis

ANSWER KEY: A&P I -- Review Section IV

72 d, 73 b, 74 a, 75 e, 80 g, 81 i, 82 c, 83 f, 84 d, 85 a, 86 e, 87 c, 88 e, 89 d, 90 d & e, 91 b, 92 c, 93 c, 94 a, 95 d, 96 d, 97 e, 98 a, 99 b, 100 b, 101 c, 102 d, 103 b, 104 e