

Specialized Topics in Areas of Radiologic Sciences

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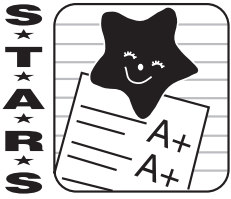
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Unit 37

Cliffs Quick Review

Anatomy and Physiology

**Prepared by: Carolyn J. Frigmanski, M.A., B.S.R.T. ®
Founder, S.T.A.R.S.**



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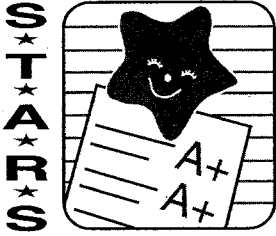
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Carolyn J. Frigmanski, M.A.,B.S.R.T. ®, Founder



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Unit 37 Title: Cliffs Quick Review Anatomy and Physiology

Please complete the answer sheet at the conclusion of this post test and return to the S.T.A.R.S. office.
Chapter 1

1. A group of similar cells performing a common function is called
 - a. an organ
 - b. a living organism
 - c. a tissue
 - d. a living system
2. An imaginary plane that divides the body or organ into a top and bottom part is known as
 - a. transverse/horizontal
 - b. sagittal
 - c. frontal
 - d. axillary
3. The anatomic term used to locate structures on the same side of the body is
 - a. intermediate
 - b. ipsilateral
 - c. medial
 - d. contralateral
4. The chemical bond that is created when electrons are transferred from one atom to another is called
 - a. covalent
 - b. hydrogen
 - c. electronic
 - d. ionic
5. All organic molecules must contain _____ atoms.
 - a. carbon
 - b. oxygen
 - c. hydrogen
 - d. sodium
6. The type of macromolecule contained in many hormones is a
 - a. carbohydrate
 - b. lipid
 - c. protein
 - d. nucleic acid
7. The category of macromolecule constructed as either a single or double helix is a
 - a. carbohydrate
 - b. lipid
 - c. protein
 - d. nucleic acid
8. The chemical reaction that involves the breakdown of substances is called
 - a. synthesis
 - b. metabolism
 - c. anabolism
 - d. oxidation

Chapter 2

9. The organelle that carries out aerobic respiration is the

- a. endoplasmic reticulum
- b. Golgi apparatus
- c. mitochondria
- d. lysosome

10. The movement of water molecules across a selectively permeable membrane is called

- a. osmosis
- b. dialysis
- c. diffusion
- d. active transport

11. The stage of mitosis in which the cell divides into two daughter cells is called

- a. anaphase
- b. metaphase
- c. interphase
- d. telophase

12. The process of mixing genetic material from both parents is referred to as

- a. meiosis I
- b. genetic recombination
- c. metaphase I
- d. mitosis II

13. The DNA segment that codes a particular enzyme or other polypeptide is called a

- a. gene
- b. nucleotide
- c. mutagen
- d. base

Chapter 3

14. The classification of tissue that secretes hormones and lines body surfaces is

- a. connective
- b. mucous
- c. epithelial
- d. muscle

15. The suffix used to indicate an immature cell is

- a. cyte
- b. blast
- c. phage
- d. genesis

16. The part of a neuron that receives the stimulus is the

- a. axon
- b. neuroglia
- c. cell body
- d. dendrite

17. The type of muscle tissue that is voluntary is also called

- a. skeletal
- b. smooth
- c. cardiac
- d. non-striated

Chapter 4

18. The skin functions in metabolizing vitamin

- a. A
- b. D
- c. E
- d. C

19. The pigment that protects skin cells from the effects of ultraviolet radiation is

- a. keratin
- b. betacarotene
- c. melanin
- d. collagen

20. The gland that secretes a material we commonly call earwax is called

- a. ceruminous
- b. apocrine
- c. sebaceous
- d. eccrine

Chapter 5

21. The production of blood cells is called

- a. homeostasis
- b. hemolysis
- c. hemostasis
- d. hematopoiesis

22. Wormian bones are located in the

- a. pelvis
- b. cranium
- c. vertebral column
- d. rib cage

23. Spongy bone tissue sandwiched between two layers of compact bone is referred to as

- a. a diploe
- b. a diaphysis
- c. the medullary cavity
- d. an epiphyseal plate

24. The ossification process in which hyaline cartilage is replaced by bone tissue is called

- a. intramembranous
- b. primary
- c. endochondral
- d. secondary

25. The term _____ describes the process of creating new bone and replacing old bone.

- a. recalcification
- b. callus formation
- c. ossification
- d. remodeling

26. The term _____ describes a pit like depression on a bone.

- a. fovea
- b. fossa
- c. foramen
- d. fontanel

Chapter 6

27. Another name for the true ribs is

- a. vertebral ribs
- b. vertebrosteral ribs
- c. vertebrochondral ribs
- d. sternal ribs

28. The _____ are spaces between infant cranial bones that are filled with fibrous membranes.

- a. cranial fossae
- b. sinuses
- c. fontanels
- d. cranial foramina

29. The bony processes of the vertebrae used for muscle and ligament attachment are known as

- a. transverse
- b. spinous
- c. superior articular
- d. inferior articular

30. The pectoral girdle consists of two flat, triangular bones called the

- a. ilia
- b. ischium
- c. patella
- d. scapulae

Chapter 7

31. The structural classification of a joint found between the diaphysis and epiphysis in a long bone is

- a. fibrous
- b. cartilaginous
- c. synovial
- d. immovable

32. An example of a diarthrodial joint is found between the

- a. femur and pelvis
- b. cranial bones
- c. intervertebral discs
- d. tibia and fibula

Chapter 8

33. A cordlike extension of connective tissue that connects muscle to bone or other muscles is called

- a. a ligament
- b. the fascia
- c. a tendon
- d. an aponeurosis

34. Rigor mortis occurs in corpses because

- a. cross bridges deteriorate
- b. actin and myosin increase
- c. new ADP molecules become available
- d. new ATP molecules are unavailable

35. The time period in which muscle fiber will not immediately respond to a second stimulus is called

- a. contraction
- b. refractory
- c. latent
- d. relaxation

36. Muscle fatigue results from an accumulation of

- a. lactic acid
- b. pyruvic acid
- c. glycogen
- d. oxygen

Chapter 9

37. The muscle that is most responsible for movement is the

- a. antagonist
- b. synergist
- c. prime mover
- d. secondary mover

38. The deltoid muscle of the upper arm has a _____ shape.

- a. rhomboid
- b. saw-toothed
- c. trapezoid
- d. triangular

39. The _____ muscle allows radiographers to flex and rotate their heads.

- a. sternocleidomastoid
- b. splenius capitis
- c. longissimus
- d. semispinalis capitis

40. The _____ muscle allows radiographers to rotate their trunk.

- a. rectus abdominis
- b. external oblique
- c. transverse abdominus
- d. spinalis

Chapter 10

41. The _____ neurons transmit impulses toward the central nervous system.

- a. efferent
- b. association
- c. afferent
- d. motor

42. The star-shaped neuroglia that maintain ion balance around neurons are known as

- a. microglia
- b. ependymal cells
- c. oligodendrocytes
- d. astrocytes

43. The ions needed for the polarization process are

- a. Na and K
- b. O and H
- c. Ca and P
- d. Na and Cl

Chapter 11

44. The _____ nervous system is involved in stimulating the body to prepare for action.

- a. autonomic
- b. sympathetic
- c. parasympathetic
- d. somatic

45. The fluid circulating in the ventricles of the brain to provide nourishment for nerve tissue is called

- a. synovial
- b. lymph
- c. cerebrospinal
- d. serous

46. The primary vesicle of the brain that contains white matter is the

- a. prosencephalon
- b. mesencephalon
- c. rhombencephalon
- d. telencephalon

47. The adult structure of the brain that contains the cardiovascular and respiratory center is the

- a. cerebellum
- b. cerebrum
- c. hypothalamus
- d. brain stem

48. The middle layer of the meninges is the

- a. dura mater
- b. arachnoid
- c. pia mater
- d. mid mater

49. Spinal nerves emerge from the spinal column through the

- a. transverse foramina
- b. vertebral arch
- c. intervertebral foramina
- d. vertebral foramina

Chapter 12

50. Tears contain

- a. 100% water
- b. salt water
- c. lubricating oil
- d. antibodies and lysozyme

51. The _____ are the photoreceptors of the eye that provide vision in dim light.

- a. rods
- b. choroid
- c. cones
- d. fovea centralis

52. The auditory ossicles are located in the _____ ear.

- a. inner
- b. middle
- c. internal auditory meatus
- d. outer

53. The structure that serves as the primary detector of changes in dynamic equilibrium is the

- a. vestibule
- b. cochlea
- c. organ of Corti
- d. semicircular canal

54. The sensation of sweetness is best detected by taste buds located

- a. on the back of the tongue
- b. on the front of the tongue
- c. on the sides of the tongue
- d. on the very tip of the tongue

Chapter 13

55. The gland that secretes follicle-stimulating hormone is the

- a. posterior pituitary
- b. ovary
- c. anterior pituitary
- d. pineal

56. The gland that regulates our biological clock is the

- a. pituitary
- b. thyroid
- c. adrenal
- d. pineal

57. The hormone that stimulates stomach muscle contraction is

- a. serotonin
- b. cholecystokinin
- c. gastrin
- d. amylase

Chapter 14

58. The _____ is the blood cell responsible for the mechanism of blood clotting.

- a. erythrocyte
- b. thrombocyte
- c. leukocyte
- d. lymphocyte

59. The blood type that does not carry any foreign antigens is
- a. A B. B c. AB d. O
60. The _____ is the muscular layer of the heart.
- a. epicardium c. myocardium
b. endocardium d. pericardium
61. Blood leaving the left ventricle of the heart is pumped into the
- a. right ventricle c. pulmonary artery
b. aorta d. pulmonary vein
62. Initiation of the cardiac cycle is created by the
- a. sinoatrial node c. bundle of His
b. atrioventricular node d. Purkinje fibers
63. On an electrocardiogram, the QRS complex represents the
- a. depolarization of the atria c. contraction of the atria
b. expansion of the ventricles d. depolarization of the ventricles
64. The volume of blood pumped out of the right or left ventricle per minute is calculated as the
- a. stroke volume c. cardiac output
b. heart rate d. ejection fraction
65. The pressure measured during contraction of the ventricles is called
- a. systole c. diastole
b. stroke volume d. vasoconstriction
- Chapter 15**
66. The lymphatic structures that act as cleaning filters and immune response centers are the
- a. ducts c. vessels
b. nodes d. lacteals
67. The lymph tissue that grows during childhood and begins to atrophy at puberty is called the
- a. thyroid gland c. spleen
b. thoracic duct d. thymus gland
68. One third of our platelets are stored in the
- a. spleen c. liver
b. thoracic duct d. thymus gland

Chapter 16

69. The _____ is considered one of the nonspecific barriers providing a first line of defense.

- a. platelets
- b. lymph tissue
- c. skin
- d. soft tissue

70. Cells that engulf pathogens are called

- a. erythrocytes
- b. phagocytes
- c. platelets
- d. interferons

71. Vasodilation as an inflammatory response to pathogens is stimulated by

- a. histamine
- b. interferon
- c. an antigen
- d. DNA response

72. Proteins that bind to specific antigens are called

- a. antigens
- b. interferons
- c. histamines
- d. antibodies

Chapter 17

73. The final branches of the bronchial tree are known as

- a. primary bronchi
- b. lobar bronchi
- c. alveolar ducts
- d. secondary bronchi

74. The pleural membrane that adheres directly to each lung is called the

- a. parietal pleura
- b. visceral pleura
- c. peritoneum
- d. serous membrane

75. The _____ describes the amount of air inspired during normal relaxed breathing.

- a. residual volume
- b. vital capacity
- c. inspiratory capacity
- d. tidal volume

76. Oxygen is carried in the blood when it is bound to a molecule of

- a. RNA
- b. protease
- c. hemoglobin
- d. glycogen

77. The _____ area of the respiratory center prevents over inflation of the lungs.

- a. apneustic
- b. pneumotoxic
- c. medulla oblongata
- d. pons

Chapter 18

78. The process of moving molecules from the digestive tract to blood and lymphatic vessels is

- a. absorption
- b. propulsion
- c. chemical digestion
- d. ingestion

79. Pepsin contained in gastric juices operates on

- a. starches
- b. carbohydrates
- c. fats
- d. proteins

80. Chemical digestion begins in saliva due to the presence of an enzyme called

- a. pepsin
- b. sucrase
- c. amylase
- d. trypsin

81. The _____ covers the larynx during deglutition (swallowing).

- a. uvula
- b. epiglottis
- c. soft palate
- d. oopharynx

82. Chyme is propelled from the duodenum into the

- a. jejunum
- b. pancreas
- c. ileum
- d. large intestine

83. The cells contained in the villi that secrete lysozyme to destroy bacteria are called

- a. enteroendocrine
- b. absorptive
- c. Goblet
- d. Paneth

84. Vitamins B and K, water and some electrolytes are absorbed by the

- a. stomach
- b. duodenum
- c. large intestine
- d. ileum

85. Pancreatic juice is produced in clusters of cells called

- a. acini
- b. biliary
- c. endocrine
- d. digestive

86. Toxic substances (drugs, poisons) and hormones are broken down by the

- a. pancreas
- b. gallbladder
- c. liver
- d. stomach

Chapter 19

87. The inner, fibrous membrane of the kidney that prevents the entrance of infection is the

- a. renal cortex
- b. renal capsule
- c. renal sinus
- d. renal medulla

88. The _____ is the cup-shaped body that encircles the glomerulus to collect filtrates.

- a. proximal convoluted tubule
- b. distal convoluted tubule
- c. loop of Henle
- d. glomerular capsule (Bowman's capsule)

89. Water and solutes are initially removed from the blood by the process of

- a. tubular reabsorption
- b. diffusion
- c. glomerular filtration
- d. tubular secretion

90. Maximum concentration of urine in the loop of Henle occurs at the

- a. bottom
- b. top
- c. between two or more loops
- d. mid portion

91. The stimulation to urinate occurs when the urinary bladder contains

- a. 400-500 mls
- b. 200-300 mls
- c. 100-150 mls
- d. 600+ mls

Chapter 20

92. Sperm in the testis must be maintained at a temperature of _____ degrees Celsius below that of the body cavity.

- a. 5
- b. 2
- c. 4
- d. 3

93. Sperm production occurs in the

- a. vas deferens
- b. efferent ducts
- c. seminiferous tubules
- d. epididymis

94. The seminal vesicle secretes _____ to stimulate female uterine contractions.

- a. prostaglandins
- b. testosterone
- c. fructose
- d. acrosome

95. Spermatogenesis begins at the age of

- a. 18 years
- b. puberty
- c. 21 years
- d. conception

96. The peritoneal structure that drapes over the ovaries and uterus is called the

- a. ovarian ligament
- b. suspensory ligament
- c. mesovarium
- d. broad ligament

97. The _____ is the highly vascularized mucosal lining inside the uterus.

- a. myometrium
- b. mesovarium
- c. endometrium
- d. perimetrium

98. The mammary glands are classified as _____ glands.

- a. sudoriferous
- b. endocrine
- c. sebaceous
- d. temporary

99. The developmental stage of the follicle that remains after ovulation is called the

- a. primordial follicle
- b. corpus luteum
- c. secondary follicle
- d. vesicular or Graafian follicle

100. The hormone that stimulates the development of secondary sex characteristics in females is

- a. progesterone
- b. follicle-stimulating
- c. luteinizing
- d. estrogen

Matching Chapter 5: Bones & Skeletal Tissue

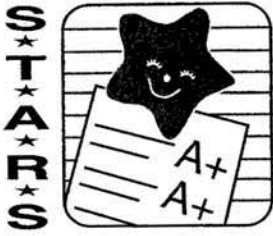
Select the correct definition of each term listed as questions 101-105 and place the letter on the answer sheet.

- 101. endosteum
 - 102. periosteum
 - 103. epiphysis
 - 104. medullary cavity
 - 105. diaphysis
- a. membrane covering the outside of the bone
 - b. the expanded end of a long bone
 - c. covers the trabeculae that fill the inside of the bone
 - d. the long tubular portion of a long bone
 - e. open area within the diaphysis containing adipose tissue
 - f. articular cartilage
 - g. metaphysis

Matching Chapter 6: The Skeletal System

Select the correct definition/location of each term listed as questions 106-110 and place the letter on the answer sheet.

- 106. lunate
 - 107. calcaneus
 - 108. perpendicular plate
 - 109. forehead
 - 110. mental foramen
- a. name of a tarsal bone
 - b. frontal squama
 - c. name of a carpal bone
 - d. located on the mandible
 - e. part of the ethmoid bone
 - f. located on the maxilla
 - g. part of the sphenoid bone



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Answer Sheet for: Unit 37: Cliffs Quick Review Anatomy and Physiology

Please place your lettered selection for each question in the respective box and return *ONLY this post test sheet to S.T.A.R.S.*

1.	11.	21.	31.	41.	51.	61.
2.	12.	22.	32.	42.	52.	62.
3.	13.	23.	33.	43.	53.	63.
4.	14.	24.	34.	44.	54.	64.
5.	15.	25.	35.	45.	55.	65.
6.	16.	26.	36.	46.	56.	66.
7.	17.	27.	37.	47.	57.	67.
8.	18.	28.	38.	48.	58.	68.
9.	19.	29.	39.	49.	59.	69.
10.	20.	30.	40.	50.	60.	70.

Answer Sheet for: Unit 37: Cliffs Quick Review Anatomy and Physiology

**Please place your lettered selection for each question in the respective box and return
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71.	81.	91.	101.
72.	82.	92.	102.
73.	83.	93.	103.
74.	84.	94.	104.
75.	85.	95.	105.
76.	86.	96.	106.
77.	87.	97.	107.
78.	88.	98.	108.
79.	89.	99.	109.
80.	90.	100.	110.