

Answer the multiple-choice questions on your scan sheet. Your free response will be answered on a separate sheet. You may write on your test, but all final multiple-choice answers must be put on your scan sheet.

Make sure you put your name on the TEST BOOKLET, SCAN SHEET, and FREE RESPONSE PAPER.

Directions: Read each question carefully and bubble in the corresponding answer on your scan sheet.

1. Which of the following is NOT an area of focus in biomedical science?
 - a. Etiology
 - b. Diagnostics
 - c. Analytics
 - d. Prevention
2. Which part of a medical term attaches to the end of word and indicates a procedure, condition, or disease?
 - a. Word root
 - b. Combining vowel
 - c. Prefix
 - d. Suffix

Matching: Match the medical term to its definition.

- | | |
|---------------|--------------------------------|
| 3. Neurology | a. Inflammation of the stomach |
| 4. Osteopathy | b. Disease of the bone |
| 5. Carcinoma | c. Cancerous tumor |
| 6. Gastritis | d. Study of the nervous system |

7. Athletic trainers specialize in all of the following except:
 - a. Prevention
 - b. Rehabilitation
 - c. Imaging
 - d. Recognition
8. Which of the following domains is concerned with critical incident management, including first aid, CPR, and AED?
 - a. Domain I
 - b. Domain II
 - c. Domain III
 - d. Domain IV
 - e. Domain V
9. True/False: Disease is physical trauma caused by an external force.
 - a. True
 - b. False
10. Which of the following is NOT a field of pathology?
 - a. Molecular
 - b. Veterinary
 - c. Anatomical
 - d. Forensic
 - e. All are fields of pathology
11. Long-lasting diseases that require ongoing care are referred to as:
 - a. Acute
 - b. Pathogenic
 - c. Chronic
 - d. Idiopathic

12. What term refers to a bruise that is caused by a direct blow to the body?
- a. Sprain
 - b. Concussion
 - c. Contusion
 - d. Strain
 - e. None of the above
13. True/False: Concussions may have long-term effects that cause cognitive and behavioral changes.
- a. True
 - b. False
14. Which of the following is NOT a sign?
- a. Swelling
 - b. Nausea
 - c. Obvious deformity
 - d. Discoloration
15. True/False: Objective information during an evaluation comes from the patient, while subjective information is measurable factors from the patient exam.
- a. True
 - b. False
16. True/False: Observation, palpation, and special tests are part of the objective portion of HHOPS.
- a. True
 - b. False
17. The initial diagnosis falls within which part of the SOAP note?
- a. Subjective
 - b. Plan
 - c. Objective
 - d. Assessment
18. Which type of documentation focuses more on the evaluation of an injury, excluding the rehabilitation/treatment portion?
- a. SOAP note
 - b. HHOPS note
19. Which of the following is a goal of rehabilitation?
- a. Improve coordination
 - b. Improve mobility
 - c. Rebuild strength
 - d. All of the above
20. Which stage of healing typically begins within 3 days and is characterized by a reduction in inflammation and pain, and an increased tissue tolerance to stress?
- a. Subacute
 - b. Chronic
 - c. Acute
21. Which correctly describes the PEACE acronym?
- a. Protect, Exercise, Avoid, Coordinate, Elevate
 - b. Provide, Elevate, Address, Compress, Educate
 - c. Protect, Elevate, Avoid, Compress, Educate
22. Which type of modality may have thermal, mechanical, and chemical positive outcomes?
- a. Electrical stimulation
 - b. Manual

c. Ultrasound

d. Cryotherapy

23. Which type of modality encourages venous and lymphatic drainage and stretches scar tissue?

a. Thermal

d. Ultrasound

b. Manual

e. Therapeutic massage

c. Electrical stimulation

24. What term refers to the moral principles that govern a person's conduct and behavior throughout their life?

a. Ethics

c. Biomedical ethics

b. Morals

d. Justice

Matching: Match the ethics principle to its description.

25. Autonomy

a. Obligation to act for, and in, the patient's best interest

26. Justice

b. The fair, equitable, and appropriate treatment of all individuals

27. Beneficence

c. Patient has the right to make decisions for themselves

28. Non-maleficence

d. Do no harm

29. A doctor failing to perform CPR on a patient is an example of which type of liability?

a. Nonfeasance

c. Malfeasance

b. Misfeasance

30. Which of the following is not a criterion for medical malpractice?

a. Duty

c. Causation

b. Damages

d. Justice

31. Which of the following is NOT a function of the skin?

a. Temperature maintenance

d. Synthesis of vitamin D

b. Storage of fat

e. All are functions of the skin

c. Excretion

32. What is the outermost layer of the skin called?

a. Dermis

c. Epidermis

b. Hypodermis

Matching: Match the skin cell to its function.

33. Melanocyte

a. Highly sensitive receptors involved in touch

34. Merkel cell

b. Produce the pigment melanin

35. Keratinocyte

c. Act as gatekeepers, providing immune defense

36. Langerhans cell

d. Make up 80% of epidermal cells; form keratin

37. True/False: The dermis is the subcutaneous layer of skin, mainly composed of fat tissue, nerves, and blood vessels.
- True
 - False
38. True/False: Sweat and sebaceous glands are located in the epidermis.
- True
 - False
39. True/False: Individuals with lighter skin colors have more melanin than individuals with darker skin colors.
- True
 - False
40. What type of gland is responsible for helping regulate body temperature, eliminating wastes, and assisting in immunity?
- Sweat gland
 - Sebaceous gland
 - Oil gland
41. What condition refers to pores in the skin becoming clogged and irritated?
- Eczema
 - Herpes
 - Vitiligo
 - Acne
42. What condition is characterized by skin losing its color, resulting in white patches appearing?
- Vitiligo
 - Port-Wine stains
 - Scabies
 - Psoriasis
43. Which of the following is a function of the skeletal system?
- Production of fat cells
 - Protect organs
 - Blood cell formation
 - B and C
 - All of the above
44. Which of the following bones is NOT part of the axial skeleton?
- Carpal
 - Cervical
 - Occipital
 - Sacrum
45. True/False: Ribs are classified as false if they connect directly with the sternum.
- True
 - False

Matching: Match the joint classifications to their description.

- | | |
|--------------------|----------------------------|
| 46. Diarthrosis | a. Slightly moveable joint |
| 47. Synarthrosis | b. Immoveable joint |
| 48. Amphiarthrosis | c. Freely moveable joint |

49. What type of joint is held together by connective tissue and allows almost no movement (hint: an example of this joint are the sutures in the skull)?

- a. Cartilaginous
- b. Synovial
- c. Fibrous
- d. Syndesmotoc

50. Which of the following is part of the appendicular skeleton?

- a. Clavicle
- b. Pelvis
- c. Humerus
- d. A and C
- e. All of the above

51. Which of the following is NOT part of the pectoral girdle?

- a. Scapula
- b. Humerus
- c. Clavicle
- d. A and B
- e. B and C

52. The wrist bones are called:

- a. Metatarsals
- b. Carpals
- c. Metacarpals
- d. Tarsals

53. True/False: Phalanges are found in both the fingers and the toes.

- a. True
- b. False

Matching: Match the fracture type to its description.

- | | |
|----------------|---|
| 54. Compound | a. Side of bone is cracked, but break does not go all the way through |
| 55. Transverse | b. Break runs horizontally across the bone |
| 56. Greenstick | c. Bone is broken in at least 2 places |
| 57. Comminuted | d. Bone pierces the skin |
| 58. Spiral | e. Fracture that occurs when the bone is twisted |

59. True/False: An avulsion fracture occurs when a sudden change in direction causes the ligament to pull off part of the bone.

- a. True
- b. False

60. This type of imaging produces a 3D image of bones and organs.

- a. Arthroscope
- b. X-ray
- c. CT scan
- d. MRI

61. One of your athletes just tore his ACL. When he goes into surgery, the surgeon inserts a tiny camera into the knee to help visualize the area. What imaging is he using?

- a. Ultrasound
- b. MRI
- c. X-ray
- d. Arthroscope
- e. STIM

62. Which of the following is NOT a function of muscles?

- a. Produce heat
- b. Stabilize body positions
- c. Produce blood cells
- d. Produce body movements
- e. All are functions of muscles

Matching: Match the following muscular terms to their definition.

- | | |
|----------------|---|
| 63. Origin | a. Attachment of muscle to moving bone |
| 64. Agonist | b. Attachment of muscle to non-moving bone |
| 65. Insertion | c. Muscle that has the opposite effect of the prime mover |
| 66. Antagonist | d. Muscle producing the desired action |

67. All of the following are muscles of the hamstring except:

- a. Biceps femoris
- b. Rectus femoris
- c. Semitendinosus
- d. Semimembranosus

68. True/False: Cardiac muscle is found in the heart and lining the walls of blood vessels.

- a. True
- b. False

69. Which type of muscle contains intercalated discs?

- a. Skeletal
- b. Cardiac
- c. Smooth

70. What type of muscle is characterized as being involuntary and non-striated, typically found lining hollow organs?

- a. Skeletal
- b. Cardiac
- c. Smooth

71. Which of the following is the innermost muscle fascia layer?

- a. Perimysium
- b. Epimysium
- c. Endomysium

72. A group of muscle fibers is known as a:

- a. Sarcomere
- b. Myofibril
- c. Sarcoplasm
- d. Fascicle

73. True/False: A sarcomere is a repeating unit of actin and myosin within the myofibril.

- a. True
- b. False

74. Muscle weakness and difficulty speaking and swallowing are symptoms of this disorder.
- a. DOMS
 - b. Rhabdomyolysis
 - c. Myasthenia gravis
 - d. Muscular dystrophy
75. A person with this injury experiences soreness and stiffness 1-3 days after exercise due to microscopic tears and waste buildup in muscles after intense exercise.
- a. DOMS
 - b. Fibromyalgia
 - c. Myasthenia gravis
 - d. Muscular dystrophy
76. The peripheral nervous system is made up of:
- a. Cranial nerves and brain
 - b. Brain and spinal cord
 - c. Spinal cord and spinal nerves
 - d. Spinal nerves and cranial nerves
77. Which of the following is NOT a function of the nervous system?
- a. Motor
 - b. Integration
 - c. Sensory
 - d. All are functions
78. Which division of the nervous system is responsible for sending signals from the body to the CNS?
- a. Autonomic
 - b. Somatic
 - c. Efferent
 - d. Afferent
79. Which of the following is NOT a special sense?
- a. Gustation
 - b. Vision
 - c. Equilibrium
 - d. Olfactory
 - e. Nociception
80. What structure is responsible for helping to shape the lens to view images near and far away?
- a. Cornea
 - b. Ciliary body
 - c. Iris
 - d. Retina
81. Which region of the ear is the tympanic membrane found in?
- a. External
 - b. Middle
 - c. Inner
82. True/False: The outer layer of the brain is comprised of white matter.
- a. True
 - b. False
83. Which lobe of the brain plays a role in hearing, learning, and feelings?
- a. Frontal
 - b. Parietal
 - c. Occipital
 - d. Temporal
84. Cerebrospinal fluid is found in all of the following areas except:

- a. Ventricles
- b. Arachnoid space
- c. Central canal
- d. Fissures of the cerebrum

85. True/False: The brainstem is responsible for involuntary coordination of body movements.

- a. True
- b. False

86. Which of the following cranial nerves has **only** a motor function?

- a. Optic
- b. Trigeminal
- c. Trochlear
- d. Vagus

87. True/False: Cranial nerve V is the trigeminal nerve.

- a. True
- b. False

88. True/False: There are 4 cranial nerves that have both sensory and motor components.

- a. True
- b. False

89. The spinal nerves are arranged into 4 plexuses. Which is not one of these plexuses?

- a. Brachial
- b. Sacral
- c. Lumbar
- d. Cranial

90. True/False: In a monosynaptic reflex, there is one sensory neuron, one motor neuron, and only one synapse that occurs.

- a. True
- b. False

Matching: Match the following conditions to their symptoms.

- | | |
|---------------------------|--|
| 91. Concussion | a. Headache, confusion, dizziness, nausea |
| 92. TIA | b. Facial weakness or paralysis |
| 93. Bell's Palsy | c. Numbness, tingling, pain in extremities |
| 94. Peripheral neuropathy | d. Temporary weakness, speech difficulty |

Directions: Read the following scenario and create a SOAP note in the table provided below.

During an after-school baseball practice, 18-year-old varsity outfielder Cal Hill was sent to the athletic training room after experiencing pain in his throwing arm. Cal reports that while making a long throw from the outfield to home plate, he felt a sharp pain in his right shoulder, which he rates as 7 out of 10. The pain worsens when he raises his arm overhead or attempts to throw. He denies hearing or feeling a pop but states his shoulder has felt sore on and off for the past two weeks. He admits to increased practice time due to upcoming playoffs and inconsistent icing after practices. He denies numbness, tingling, or prior shoulder injuries.

Cal is alert and holding his right arm close to his body. Mild swelling and tenderness are noted over the front of the right shoulder, with limited range of motion due to pain, especially during abduction and external rotation. No bruising or deformity is present, and grip strength is equal bilaterally. Vital signs are within normal limits. Based on the evaluation, the athletic trainer suspects a shoulder overuse injury, such as a rotator cuff strain. Cal is advised to stop throwing for the remainder of practice, apply ice to the shoulder, and begin rest and activity modification, with a recommendation to follow up for further evaluation if symptoms do not improve.

Athlete Name:
Subjective:
Objective:
Assessment:
Plan:

CONTINUE TO BACK → → →

Extra Credit: Answer the following questions in the space provided. **The extra credit will only be looked at and graded once ALL other components of the exam are completed.**

1. What is the difference between anatomy and physiology?

2. What is the difference between a sprain and a strain?

3. Who was the first athletic trainer hired in the U.S.?

4. What is the name of the skin condition that results from excess bilirubin in the blood, causing the skin and eyes to appear yellow?

5. There are 206 bones in the adult human body. How many of those bones are part of the axial skeleton, and how many are part of the appendicular skeleton?
