

CHAPTER 1 : Basic Information

Multiple Choice

Select the one best choice that completes the statement or answers the question.

1. Osteokinematic motions include:
 - a. Roll
 - b. Spin
 - c. Flexion
 - d. Glide

2. The frontal axis passes _____ through the _____ plane.
 - a. Top to bottom, horizontal
 - b. Front to back, frontal
 - c. Side to side, frontal
 - d. Side to side, sagittal

3. In which plane do scapular elevation and depression occur?
 - a. Horizontal
 - b. Frontal
 - c. Transverse
 - d. Sagittal

4. The anatomical position is:
 - a. Supine
 - b. Prone
 - c. The starting position for movements
 - d. The position of ideal posture

5. How many degrees of freedom does a biaxial joint have?
 - a. 1
 - b. 2
 - c. 3
 - d. 4

6. Which motions typically occur in the frontal plane?
 - a. Flexion-extension
 - b. Circumduction
 - c. Medial-lateral rotation
 - d. Abduction-adduction

7. The head is _____ to the pelvis.
 - a. Medial
 - b. Caudal
 - c. Superior
 - d. Ventral

8. The sagittal plane passes through the body:
 - a. Horizontally, dividing the body into top and bottom portions
 - b. Diagonally, dividing the body into triangular portions
 - c. Vertically, dividing the body into front and back portions
 - d. Vertically, dividing the body into right and left portions

9. The osteokinematic motion of extension is defined as movement of limb segment surfaces _____ .

- a. Anterior – away from each other
- b. Posterior – away from each other
- c. Anterior – towards each other
- d. Lateral – away from each other

10. Which of the following motions does not conform to the definition of that motion?

- a. Knee extension
- b. Hip lateral rotation
- c. Shoulder flexion
- d. Elbow extension

11. An individual sitting on a high stool swinging their feet is an example of:

- a. Closed kinetic chain
- b. Contralateral movement
- c. Open kinetic chain
- d. Anatomical position

12. When measuring range of motion, the anatomical position is what degree position?

- a. 180
- b. 0
- c. 90
- d. 120

13. The vertical axis passes through the plane:

- a. Front to back – sagittal
- b. Side to side – horizontal
- c. Side to side – frontal
- d. Superior to inferior – horizontal

14. The biceps brachii muscle is _____ to the skin and _____ to bone.

- a. Superior, inferior
- b. Caudal, cranial
- c. Deep, superficial
- d. Proximal, distal

15. Within which plane, and about which axis, does trunk lateral flexion occur?

- a. Frontal – sagittal
- b. Horizontal – vertical
- c. Sagittal – frontal
- d. Frontal – horizontal

16. The osteokinematic motion of abduction is defined as movement of a limb segment _____ the midline.

- a. Away from
- b. Superior to
- c. Toward
- d. Inferior to

17. In how many planes does a triaxial joint have motion?

- a. 4
- b. 3
- c. 2
- d. 1

18. Which motions typically occur in the sagittal plane?

- a. Abduction-adduction
- b. Protraction-retraction
- c. Horizontal abduction-adduction
- d. Flexion-extension

19. The right hand is _____ to the left hand and _____ to the right foot.

- a. Medial, lateral
- b. Proximal, distal
- c. Contralateral, ipsilateral
- d. Ventral, dorsal

20. Within which plane, and about which axis, do medial and lateral rotation occur?

- a. Frontal – vertical
- b. Horizontal – vertical
- c. Horizontal – sagittal
- d. Sagittal – frontal

CHAPTER 1 Basic Information

Answer Section

- 1. Ans: C
- 2. Ans: D
- 3. Ans: B
- 4. Ans: C
- 5. Ans: B
- 6. Ans: D
- 7. Ans: C
- 8. Ans: D
- 9. Ans: A
- 10. Ans: A
- 11. Ans: C
- 12. Ans: B
- 13. Ans: D
- 14. Ans: C
- 15. Ans: A
- 16. Ans: A

- 17. Ans: B
- 18. Ans: D
- 19. Ans: C
- 20. Ans: B

CHAPTER 2 Biomechanics

Multiple Choice

Select the one best choice that completes the statement or answers the question.

1. Motion created by forces that incorporates factors of time, space, and mass of a moving system is described by which term?
 - a. Osteokinematics
 - b. Biomechanics
 - c. Mechanics
 - d. Kinematics

2. Shear forces occurring within a joint are:
 - a. Rolling
 - b. Gliding
 - c. Traction
 - d. Compression

3. A force that is not applied perpendicular to a limb segment produces a rotatory force and:
 - a. Bending
 - b. Force couple
 - c. Traction or compression
 - d. Shear or torsion

4. A scalar quantity describes what characteristic(s) of an object?
 - a. Velocity
 - b. Distance
 - c. Direction
 - d. Magnitude

5. A moment arm (MA) is the perpendicular distance between the application of a force and the:
 - a. Resistance
 - b. Axis
 - c. Magnitude
 - d. Pulley

6. Putting a wheelchair in motion, the individual must overcome which of Newton's laws of motion?
 - a. Law of action-reaction
 - b. Law of acceleration
 - c. Law of inertia
 - d. None of the above

7. When an object bends, which force occurs on the convex side?
- a. Linear
 - b. Traction
 - c. Compression
 - d. Concurrent
8. A force that pushes body segments together creates:
- a. Traction
 - b. Mobility
 - c. Distraction
 - d. Compression
9. A vector describes:
- a. Speed and scalar
 - b. Area and mass
 - c. Mass and volume
 - d. Magnitude and direction
10. The upward force a supporting surface exerts on an individual when the individual pushes down on the supporting surface is termed:
- a. Ground reaction force
 - b. Counter force
 - c. Approximation
 - d. Friction
11. An individual is performing a push-up, and in the up position only the balls of his feet and his palm and fingers are in contact with the floor. What area is the base of support (BOS)?
- a. Area under balls of feet to top of head
 - b. Surface of body in contact with BOS in down position
 - c. Area between balls of feet to palms
 - d. Only area of balls of feet and palms
12. What is the effect of moving the line of gravity (LOG) to the edge of the base of support (BOS)?
- a. Increased stability
 - b. Increased mobility
 - c. No change in mobility
 - d. Decreased stability
13. The vector that represents the sum of the magnitude and directions of each individual vector is the:
- a. Resultant force
 - b. Linear force
 - c. Parallel force
 - d. Curvilinear force
14. Increasing the length of the force arm results in:
- a. Less resistance for the force to move
 - b. More resistance for the force to move
 - c. Less force needed to move resistance
 - d. More force needed to move resistance
15. Forces in the same plane and in the same or opposite directions are:
- a. Parallel forces
 - c. Perpendicular forces

CHAPTER 2 Biomechanics

Answer Section

1. ANS: D
2. ANS: B
3. ANS: C
4. ANS: D
5. ANS: B
6. ANS: C

- 7. ANS: B
- 8. ANS: D
- 9. ANS: D
- 10. ANS: A
- 11. ANS: C
- 12. ANS: D
- 13. ANS: A
- 14. ANS: C
- 15. ANS: A
- 16. ANS: C
- 17. ANS: B
- 18. ANS: B
- 19. ANS: A
- 20. ANS: D

CHAPTER 3 Skeletal System

Multiple Choice

Select the one best choice that completes the statement or answers the question.

1. Which type of bone is the dense, hard outer shell of a bone?
 - a. Compact bone
 - b. Periosteum
 - c. Cancellous bone
 - d. Axial bone

2. Which of the following is not present in adult bone?
 - a. Metaphysis
 - b. Medullary canal
 - c. Epiphyseal plate
 - d. Epiphysis

3. Which of the following are short bones?
 - a. Phalanges
 - b. Carpals
 - c. Metacarpals
 - d. Metatarsals

4. Which term is defined as a rounded projection?
 - a. Meatus
 - b. Sinus
 - c. Eminence
 - d. Head

5. The trabecular patterns of cancellous bone develop in response to:
 - a. Imposition of stress through a bone
 - b. Lack of force acting on bone
 - c. Lack of blood supply
 - d. Additional compact bone development

6. Where are osteoclasts located?
 - a. Periosteum
 - c. Endosteum

- a. Endosteum
- b. Epiphysis
- c. Periosteum
- d. Diaphysis

17. Inorganic components of bone provide:

- a. Hardness and strength
- b. Elasticity and flexibility
- c. Components for blood production
- d. Trabeculae

18. Which term is defined as a hollow or depression in a bone?

- a. Foramen
- b. Groove
- c. Head
- d. Fossa

19. Which bone structure is where growth of bone occurs?

- a. Medullary canal
- b. Diaphysis
- c. Epiphyseal plate
- d. Periosteum

20. An epicondyle is:

- a. A large condyle
- b. A prominence above a condyle
- c. A large, flat projection
- d. Similar to a crest

CHAPTER 3 SKELETAL SYSTEM

Answer Section

- 1. Ans: A
- 2. Ans: C
- 3. Ans: B
- 4. Ans: D
- 5. Ans: A
- 6. Ans: C
- 7. Ans: D
- 8. Ans: A
- 9. Ans: C