Essentials of Kinesiology for the Physical Therapist Assistant 3rd edition Mansfield Test Bank

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MULTIPLE CHOICE

1. The skull, hyoid bone, ribs, and vertebral column form the:
   a. Axial skeleton
   b. Core skeleton
   c. Peripheral skeleton
   d. Appendicular skeleton

   ANS: A
   The axial skeleton consists of the skull, hyoid bone, ribs, and vertebral column including the sacrum and coccyx, forming the central, semirigid bony axis of the body.

   PTS: 1

2. The bones of the appendages (extremities) form the:
   a. Axial skeleton
   b. Core skeleton
   c. Peripheral skeleton
   d. Appendicular skeleton

   ANS: D
   The appendicular skeleton is composed of the bones of the appendages, or extremities.

   PTS: 1

3. _____ is dense, typically lines the outermost portions of bones, and is extremely strong.
   a. Cancellous bone
   b. Cortical bone
   c. Marrow
   d. Porous bone

   ANS: B
   Cortical, or compact, bone is relatively dense and typically lines the outermost portions of bones. This type of bone is extremely strong, especially in regards to absorbing compressive forces through a bone's longitudinal axis.

   PTS: 1

4. _____ is porous, typically comprises the inner portions of a bone, and lightens bones.
   a. Cortical bone
   b. Compact bone
   c. Cancellous bone
   d. Porous bone

   ANS: C
   Cancellous bone is porous and typically comprises the inner portions of a bone. The porous, web-like structure of cancellous bone not only lightens bones but, similar to a series of mechanical struts, redirects forces toward weight-bearing surfaces covered by articular cartilage.

   PTS: 1

5. The diaphysis is:
   a. The central shaft of the bone
   b. The expanded portion of bone that arises from the shaft

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c. The lining of the articular surface of each epiphysis
d. Thin, tough membrane securing attachments of muscle to bone

ANS: A
The diaphysis is the central shaft of the bone.

PTS: 1

6. _____ lines the articular surface of each epiphysis, acting as a shock absorber between joints.
a. Periosteum
b. Medullary canal
c. Endosteum
d. Articular cartilage

ANS: D
Articular cartilage lines the articular surface of each epiphysis, acting as a shock absorber between joints.

PTS: 1

7. The periosteum is:
a. Similar to a thick hollow tube
b. Important for storing bone marrow
c. A tough, thin membrane covering long bones
d. A shock absorber between joints

ANS: C
Each long bone is covered by a thin, tough membrane called the periosteum. This highly vascular and innervated membrane helps secure the attachments of muscles and ligaments to bone.

PTS: 1

8. The medullary canal is:
a. A tube within a short bone
b. Lined with membranes that cushion bone
c. A dynamic tissue only responding to external forces
d. Important for storing bone marrow and provides a passageway for nutrient-carrying arteries

ANS: D
The medullary canal is the central hollow tube within the diaphysis of a long bone, important for storing bone marrow, and provides a passageway for nutrient-carrying arteries.

PTS: 1

9. The endosteum is a:
a. Lining for diaphysis
b. Housing for many of the cells important for forming and repairing bone
c. Membrane covering long bones
d. System used to classify bones

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ANS: B
The endosteum is a membrane that lines the surface of the medullary canal. Many of the cells important for forming and repairing bone are housed in the endosteum.

PTS: 1

10. A synarthrosis is:
    a. A junction between bones that allows little to no movement
    b. A bone similar to the patella
    c. Best described as having great flexibility of movement
    d. A type of bone shaped like sesame seeds

    ANS: A
    A synarthrosis is a junction between bones that allows little to no movement. Examples include the sutures of the skull and the distal tibiofibular joint.

    PTS: 1

11. An amphiarthrosis is:
    a. A joint formed primarily of bone and disks
    b. A type of joint that allows limited amounts of motion but plays an important role in shock absorption
    c. The type of joint found in the shoulder
    d. A joint formed of several layers of fluid-trapping cells

    ANS: B
    An amphiarthrosis is a type of joint that is formed primarily by fibrocartilage and hyaline cartilage. Although these joints allow limited amounts of motion, they play an important role in shock absorption.

    PTS: 1

12. The action of the pivot joint:
    a. Is mated with a matching action of its partner
    b. Allows motion only on one plane, but from two opposite pivot points
    c. Is similar to the rotation of a doorknob
    d. Articulates between a convex surface and a matching cup-like socket

    ANS: C
    The pivot joint allows rotation around a single longitudinal axis of rotation, similar to the rotation of a doorknob.

    PTS: 1

13. The plane joint is composed of:
    a. One large, flat bone surrounded by a series of supportive smaller bone structures
    b. Two flat bone structures sandwiched one atop the other
    c. The articulation between two relatively flat bony surfaces
    d. Flexible cartilage that can be compressed slightly as needed

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ANS: C
The plane joint is composed of the articulation between two relatively flat bony surfaces, allowing limited amounts of motion; however, the lack of bony restriction often allows these joints to slide and rotate in many different directions.

PTS: 1

14. If a joint is _____, there is a marked increase in the overall stiffness of the joint's connective tissue and a marked decrease in the ability of these tissues to withstand forces.
    a. Massaged
    b. Heavily used
    c. Supported
    d. Immobilized

ANS: D
If a joint is immobilized such as during bed rest or following a casting, there is a marked increase in the overall stiffness of the joint's connective tissue and a marked decrease in the ability of these tissues to withstand forces.

PTS: 1

TRUE/FALSE

1. Short bones each have lengths, widths, and heights that are about equal.
   a. True
   b. False

   ANS: T
   Short bones have lengths, widths, and heights that are about equal, such as the carpal bones of the hand.

   PTS: 1

2. Sesamoid bones cover tendons to protect them.
   a. True
   b. False

   ANS: F
   Sesamoid bones are encased within the tendon of a muscle, serving to protect the tendon and increase the muscle's leverage.

   PTS: 1

3. Synovial fluid provides joint lubrication and dissipates compressive forces for joints.
   a. True
   b. False

   ANS: F
   Synovial fluid provides joint lubrication and nutrition.

   PTS: 1

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4. The thumb carpometacarpal joint is an example of a hinge joint.
   a. True
   b. False

   ANS: F
   The thumb carpometacarpal joint is an example of the saddle joint.

   PTS: 1

5. The sutures of the skull are examples of amphiarthrosis, a junction between bones that allows little to no movement.
   a. True
   b. False

   ANS: F
   The sutures of the skull are examples of synarthrosis, a junction between bones that allows little to no movement.

   PTS: 1

6. All synovial joints contain blood vessels and sensory nerves.
   a. True
   b. False

   ANS: T
   All synovial joints contain seven common elements including blood vessels and sensory nerves.

   PTS: 1

SHORT ANSWER

1. Joints are classified by their anatomic structure and _____.

   ANS:
   Subsequent movement potential

   PTS: 1

2. The three classifications of joints in the body are _____, _____, and _____.

   ANS:
   Synarthrosis, amphiarthrosis, and diarthrosis

   PTS: 1

3. Synovial fluid is produced by the _____.

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ANS:
Synovial membrane

PTS: 1

4. All of the connective tissues that support the joints of the body are composed of only three types of biologic materials: _____, _____, and _____.

ANS:
Fibers, ground substance, and cells

PTS: 1

5. What are some drawbacks of immobilizing the connective tissues of a joint?

ANS:
Increase in stiffness of connective tissue, decrease in ability of connective tissue to withstand forces, increased susceptibility to injury or instability for the involved joints

PTS: 1

6. List the five basic categories of bones on the basis of bone structure or shape.

ANS:
Long bones, short bones, flat bones, irregular bones, sesamoid bones

PTS: 1

MATCHING

Match each type of joint with its example.

a. Ball and socket
b. Hinge
c. Hinge
d. Plane
e. Pivot joint

1. Radiocarpal (wrist) joint
2. Intercarpal joints of the hand
3. Proximal radioulnar joint and atlanto-axial joint between first and second cervical vertebrae
4. Humeroulnar (elbow) and interphalangeal joints of fingers and toes
5. Glenohumeral (shoulder) joint and hip joint

1. ANS: C PTS: 1
2. ANS: D PTS: 1
3. ANS: B PTS: 1
4. ANS: E PTS: 1
5. ANS: A PTS: 1

Match the common elements of synovial joints with their descriptions.

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a. Capsular ligaments
b. Blood vessels
c. Synovial membrane
d. Synovial fluid
e. Articular cartilage
f. Articular capsule
g. Sensory nerves

6. Dissipates and absorbs compressive forces
7. Thickened regions of connective tissue that limit excessive joint motion
8. Transmit signals regarding pain and proprioception
9. Provides joint lubrication and nutrition
10. Provide nutrients to the joint
11. Connective tissue that surrounds and binds the joint together
12. Produces synovial fluid

6. ANS: C PTS: 1
7. ANS: D PTS: 1
8. ANS: B PTS: 1
9. ANS: G PTS: 1
10. ANS: E PTS: 1
11. ANS: A PTS: 1
12. ANS: F PTS: 1

Match each element of connective tissue with its description.

a. Elastin fibers
b. Ground substance
c. Cells
d. Type 1 collagen
e. Type 2 collagen

13. Responsible for the maintenance and repair of tissues that constitute joints
14. Thin, less stiff fibers
15. Composed primarily of glycosaminoglycans, water, and solutes
16. Resist stretching (tensile) forces but have more give when elongated
17. Thick, rugged fibers that resist elongation

13. ANS: C PTS: 1
14. ANS: E PTS: 1
15. ANS: B PTS: 1
16. ANS: A PTS: 1
17. ANS: D PTS: 1

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