



ANATOMY

1. **Shoulder abduction corresponds to which myotome level?** (TSPSC 2018)
 - a. C4
 - b. C5
 - c. C6
 - d. C7
2. **An example of synovial joint is:** (SCTIMST 2023)
 - a. Intervertebral disc
 - b. Sternomanubrial joint
 - c. Sacroiliac joint
 - d. Distal tibiofibular joint
3. **If the median nerve is injured at the wrist, then loss of function of all the following will take place; except:** (AJIPT MPT 2021, NTA DU 2021)
 - a. Lumbrical muscle in index finger
 - b. Lumbrical muscle to middle finger
 - c. Muscle of the thenar eminence
 - d. Adductor pollicis
4. **XI cranial nerve is:** (AIIMS Patna 2019)
 - a. Trigeminal nerve
 - b. Accessory nerve
 - c. Hypoglossal nerve
 - d. Facial nerve
5. **Which nerve damage leads to the paralysis of a hemidiaphragm?** (RRB 2019)
 - a. Phrenic nerve
 - b. Vagus nerve
 - c. Ulnar nerve
 - d. Median nerve
6. **The bladder is primarily innervated by which part of the nervous system?** (UPUMS Saifai 2024)
 - a. Somatic nervous system
 - b. Autonomic nervous system
 - c. Peripheral nervous system
 - d. Central nervous system
7. **Among the four rotator cuff muscles, the only medial rotator is:** (GSSSB 2020)
 - a. Subscapularis
 - b. Supraspinatus
 - c. Infraspinatus
 - d. Teres minor
8. **A muscle that flexes both hip and knee joints is:** (NTA DU 2021, JMI MPT 2022)
 - a. Adductor magnus
 - b. Biceps femoris
 - c. Rectus femoris
 - d. Sartorius
9. **Lower branch of brachial plexus injury leads to:** (JEMAS MPT 2023)
 - a. Erb's palsy
 - b. Klumpke's palsy
 - c. Wrist drop
 - d. Shoulder dislocation
10. **Odontoid process is found in which following vertebra?** (IPU-MPT 2020)
 - a. Coccyx
 - b. Atlas
 - c. Sacrum
 - d. Axis
11. **Match the correct nerve supply of the muscles:** (RSMSSB NHM 2025)

A. Trapezius	i. Dorsal scapular nerve
B. Latissimus dorsi	ii. Thoracodorsal nerve
C. Levator scapulae	iii. Spinal part of accessory nerve
D. Rhomboid	iv. Branch from DSN

Choose the most appropriate option:

 - a. A-ii, B-i, C-iv, D-iii
 - b. A-ii, B-iii, C-iv, D-i
 - c. A-iii, B-ii, C-iv, D-i
 - d. A-iii, B-iv, C-ii, D-i
12. **Which bone articulates with the head of the incus?** (AIIMS Bhubaneswar 2023)
 - a. Malleus
 - b. Manubrium
 - c. Stapes
 - d. Tympanic membrane
13. **The mitral valve is:** (RRB 2025, RSMSSB NHM 2025)
 - a. Right atrioventricular valve
 - b. Right semilunar valve
 - c. Left atrioventricular valve
 - d. Left semilunar valve
14. **All of the following are supplied by superficial peroneal nerve; except:** (GGPSC 2022)
 - a. Peroneus longus
 - b. Peroneus brevis
 - c. Peroneus tertius
 - d. Sensory lower two-thirds leg and dorsum foot
15. **What is the toughest bone of the leg called?** (SJH 2023)
 - a. Femur
 - b. Patella
 - c. Tibia
 - d. Fibula

Ans.

1. b
2. c
3. d
4. b
5. a
6. b
7. a
8. d
9. b
10. d
11. c
12. c
13. c
14. c
15. a

EXPLANATIONS

1. The primary nerve root responsible for shoulder abduction is the C5 nerve root. The C4 myotome innervates the muscles responsible for shoulder elevation. The C6 myotome controls elbow flexion and wrist extension. The C7 myotome controls elbow extension and wrist flexion.

(Orthopedic Physical Assessment/David J Magee/6th Ed./Pg. 176)

2. The sacroiliac joint is a synovial joint located between the sacrum and the ilium of the pelvis. Intervertebral discs are fibrocartilaginous joints that act as shock absorbers between adjacent vertebrae. The sternomanubrial joint is a cartilaginous joint. The distal tibiofibular joint is a syndesmosis, or fibrous union, between the concave facet of the tibia and convex facet of fibula.

(Joint Structure and Function/Norkin/5th Ed./Pg. 146, 171)

3. The adductor pollicis muscle is primarily innervated by the deep branch of ulnar nerve, not the median nerve. Therefore, it would not be affected by a median nerve injury at the wrist.

(Human Anatomy/BD Chaurasia/8th Ed./Pg. 131)

4. The accessory nerve, also known as cranial nerve XI, is responsible for controlling the sternocleidomastoid and trapezius muscles. The trigeminal nerve is V cranial nerve and largest of the cranial nerve. Hypoglossal nerve is XII cranial nerve mainly control muscles of tongue. Facial nerve is VII cranial nerve.

(Orthopedic Physical Assessment/David J Magee/6th Ed./Pg. 87)

5. When the phrenic nerve (C3-C5) is damaged, the diaphragm on the corresponding side becomes paralyzed or weakened, resulting in its elevation due to the unopposed action of abdominal contents pushing it upward. The vagus nerve is responsible for various functions such as regulating heart rate and gastrointestinal motility. The ulnar nerve (musician's nerve) primarily innervates muscles in the hand.

The median nerve (laborer's nerve) also innervates muscles in the forearm and hand, but it does not directly affect the function of the diaphragm.

(Human Anatomy/BD Chaurasia/8th Ed./Pg. 316)

6. Normal bladder movement (filling and emptying) is based on autonomic nervous system control, balancing sympathetic, and parasympathetic signals. The somatic nerves help with control of the external sphincter, but the actual bladder muscle responds to autonomic signals, not voluntary ones.

(Human Anatomy/BD Chaurasia/6th Ed./Pg. 443)

7. Among the four rotator cuff muscles, the only muscle that primarily functions as a medial rotator of the shoulder joint is the subscapularis. The supraspinatus primarily acts as abductor of shoulder joint from 0° to 15°. Infraspinatus and teres minor primarily function as lateral rotators of the shoulder joint.

(Human Anatomy/BD Chaurasia/8th Ed./Pg. 74)

8. The sartorius muscle is a flexor of both the hip and knee joints. It is the longest muscle in the human body often referred to as the 'tailor's muscle'. The sartorius is innervated by femoral nerve (L2, L3, L4).

(Essential Clinical Anatomy/Moore/5th Ed./Pg. 330)

9. Klumpke's palsy is caused by an injury to the lower brachial plexus involving nerve roots C8 and T1. Erb's palsy involves injury to the upper trunk (C5-C6). Wrist drop is seen in radial nerve injury.

(Gray's Anatomy/Susan/45th Ed./Pg. 93)

10. The odontoid process extends upward from the body of the axis (C2) and articulates with the atlas (C1) to form the atlantoaxial joint, which allows for rotation of the head.

(Joint Structure and Function/Norkin/5th Ed./Pg. 93)

2



EXERCISE THERAPY

- Which of the following conditions is characterized by the compression of nerve roots at the lumbosacral level, leading to symptoms such as low back pain, sciatica, and bowel/bladder dysfunction? (GU 2024)
 - Spinal stenosis
 - Cervical spondylosis
 - Cauda equina syndrome
 - Guillain-Barré syndrome
- Straight leg raise test done with hip flexion, knee extension, ankle dorsiflexion and foot inversion tests for: (TSPSC 2018)
 - Femoral nerve
 - Tibial nerve
 - Common peroneal nerve
 - Sural nerve
- This is a depression on the humeral head in its posterolateral quadrant, caused by impingement by the anterior edge of the glenoid on the head as it dislocates: (UPUMS Saifai 2024)
 - Bankart lesion & Hill-Sachs lesion
 - Hill-Sachs lesion
 - Bankart's lesion
 - All answers are wrong
- Waddling gait is due to: (PDUNIPPD 2024)
 - Gluteus medius & minimus weakness
 - Gluteus maximus weakness
 - Hip adductor weakness
 - Quadriceps weakness
- Isometric exercise is not: (SVNIRTAR MPT 2023)
 - Holding against a force applied manually
 - Holding a weight in a particular position
 - Pushing an immovable object
 - Excursion of body segment as muscle contracts
- Which carpal bone when fractured is more likely to result in avascular necrosis? (TNMRB 2025)
 - Lunate
 - Hamate
 - Scaphoid
 - Trapezium
- During initial evaluation of a patient, which of the following helps best in assessing the general willingness of a patient to use an affected body part? (JIPMER 2014)
 - Bony palpation
 - Active movement
 - Passive movement
 - Sensory testing
- In postoperative program for proximal or distal extensor reconstruction, assisted knee flexion and extension should begin by 6 weeks. How much knee flexion should the patient have attained by this time? (RSMSSB NHM 2025)
 - 100°
 - 90°
 - 95°
 - 120°
- Proprioceptive neuromuscular facilitation approach was developed by: (RGUHS MPT 2017, GPSC 2024)
 - Karel Bobath and Berta Bobath
 - Carr and Shepherd
 - Brunnstrom
 - Herman Kabat and Maggie Knott
- In sports-related injuries, RICE is a common first-aid acronym. What does RICE stand for? (AIIMS Rishikesh 2023)
 - Rest, Ice, Compression, Elevation
 - Run, Inspire, Climb, Exercise
 - Relax, Inhale, Concentrate, Energize
 - Refrain, Intensify, Cool down, Extend
- Break test is used to assess: (IPUCET 2024)
 - Muscle flexibility
 - Muscle strength
 - Muscle endurance
 - Muscle power
- A physical therapist performs a manual muscle test on the primary hip abductor. The therapist should perform the test while palpating the: (RPSE 2016)
 - Rectus femoris
 - Gluteus medius
 - Sartorius
 - Gluteus minimus
- What should be the temperature of water in hydrotherapy? (DSSSB 2015, SPSC 2019)
 - 27°–35°
 - 22°–42°
 - 32°–35°
 - 35°–38°

Ans.

- c
- d
- b
- a
- d
- c
- b
- b
- d
- a
- b
- b
- a

EXPLANATIONS

1. Cauda equina syndrome results from compression of lumbosacral nerve roots, causing low back pain, sciatica, bowel/bladder dysfunction, and saddle anesthesia. Spinal stenosis causes gradual narrowing but rarely acute symptoms. Cervical spondylosis affects the cervical spine, not the lumbosacral roots. Guillain-Barré syndrome is a peripheral neuropathy, not a spinal compression.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 894)

2. Ankle dorsiflexion with inversion places tension on the sural nerve. Ankle dorsiflexion with eversion places tension on tibial nerve. Ankle plantarflexion with inversion places tension on common peroneal nerve. Prone lying with spine neutral, hip extension to zero degrees and knee flexion places tension on femoral nerve. Adduction and medial rotation of hip while doing SLR increase the tension on sciatic nerve.

(Therapeutic Exercise/Kisner/6th Ed./Pg. 394)

3. The described defect is a depression fracture seen on the posterolateral aspect of the humeral head, which occurs when the humeral head impacts against the sharp anterior margin of the glenoid during anterior shoulder dislocation. This bony injury is called Hill-Sachs lesion. A Bankart lesion instead refers to a tear or detachment of the antero-inferior glenoid labrum, not the humeral head.

(Netter's Sports Medicine/Madden/1st Ed./Pg. 349)

4. Waddling gait, also known as 'Duck walking,' occurs due to bilateral paralysis or weakness of the gluteus medius and gluteus minimus muscles. These muscles stabilize the pelvis during walking, and their weakness causes the pelvis to drop on both sides, leading to a characteristic side-to-side waddling motion during ambulation.

(Textbook of Therapeutic Exercises/Lakshmi Narayanan/1st Ed./Pg. 75)

5. Isometric exercise involves muscle contraction without movement of the body segment. Excursion of body

segments, where movement occurs during muscle contraction, does not characterize isometric exercise. Functional excursion is the distance a muscle is capable of shortening after it has been elongated to its maximum.

(Therapeutic Exercise/Kisner/6th Ed./Pg. 51)

6. The scaphoid bone has a retrograde pattern of blood supply, in which vessels enter distally and supply the proximal part last. Because of this arrangement, fractures of the scaphoid, especially at its waist, can interrupt blood flow and increase the risk of avascular necrosis. Scaphoid involvement is commonly evaluated using Watson's test, which helps identify scaphoid instability associated with such injuries.

(Textbook of Orthopedics/Ebnezar/4th Ed./Pg. 42)

7. During initial evaluation, assessing a patient's willingness to use an affected body part is best done through observing their active movement, which indicates their motivation and capability.

(Therapeutic Exercise/Kisner/6th Ed./Pg. 52)

8. After proximal or distal extensor reconstruction, assisted knee flexion and extension begin at 6 weeks. By this stage, rehabilitation aims at achieving a functional range of knee flexion to allow normal activities. The expected target is 90°, which permits comfortable sitting and stair climbing without excessive strain on the reconstructed tendon.

(Essentials of Orthopaedics and Applied Physiotherapy/Jayant Joshi/2nd Ed./Pg. 554)

9. Proprioceptive Neuromuscular Facilitation approach was developed by Herman Kabat, Maggie Knott, and Voss. The Bobath Concept, also known as Neurodevelopmental Treatment (NDT), was developed by Karel Bobath and Berta Bobath. The motor learning approach was developed by Carr and Shepherd. Brunnstrom developed the Brunnstrom Approach for understanding motor recovery post-stroke.

(Therapeutic Exercise/Kisner/6th Ed./Pg. 207)



ELECTROTHERAPY

1. What term describes the process of a nerve gradually becoming less responsive to an electrical stimulation? (PDUNIPPD 2024)
 - a. Propagation
 - b. Chronaxie
 - c. Rheobase
 - d. Accommodation
2. Which reaction in cold therapy leads to alternative cycles of vasoconstriction and vasodilation?
 - a. Van't Hoff reaction (AIIMS Rishikesh 2023)
 - b. Erythematous reaction
 - c. Lewis's Hunting reaction
 - d. Excitatory Cold reaction
3. The depth of penetration of continuous shortwave diathermy is: (RRB 2025)
 - a. 6 cm
 - b. 8 cm
 - c. 2 cm
 - d. 12 cm
4. What is the unit of electrical resistance? (RPSE 2016)
 - a. Ohm
 - b. Volts
 - c. Microfarad
 - d. Coulombs
5. Conventional TENS is: (JIPMER 2014, GSSSB 2020, SV NIRTAR 2023, SCTIMST 2023)
 - a. High intensity, low frequency stimulation
 - b. Low intensity, low frequency stimulation
 - c. High intensity, high frequency stimulation
 - d. Low intensity, high frequency stimulation
6. Which one of the following modalities will place chemical substances into the body with direct current to decrease inflammation? (RGUHS MPT 2017, KPSC 2020)
 - a. Ultrasound therapy
 - b. Phonophoresis
 - c. Iontophoresis
 - d. Faradic currents
7. Name the treatment method in which two medium frequency currents are used to produce a low frequency effect?
 - a. TENS (KPSC 2017, TSPSC 2018, RPSC 2020)
 - b. Interferential current
 - c. Biofeedback
 - d. Faradic current stimulation
8. Continuous passive motion apparatus is used to:
 - a. Increase range of motion (NCL 2020)
 - b. Maintain range of motion
 - c. Strengthen knee muscle
 - d. All of the above
9. In SWD, which method is more useful to treat the walls of cavities containing air?
 - a. Coplanar (KEA MPT 2020, RGUHS MPT 2017)
 - b. Cable
 - c. Contraplanar
 - d. Crossfire method
10. Sympathetic dystrophy (or) shoulder hand syndrome can be treated effectively by:
 - a. Didynamic current (TNMRB 2025)
 - b. TENS
 - c. Galvanic
 - d. Interferential therapy
11. Which of the following techniques involves the use of manual stretching and mobilization of soft tissues to improve joint range of motion and reduce muscle tightness? (GU 2024)
 - a. Ultrasound therapy
 - b. Therapeutic taping
 - c. Massage therapy
 - d. Electrical stimulation
12. Which of the following is in accordance with law of conservation of energy? (CGPSC 2016)
 - a. Lenz's law
 - b. Fleming's right hand rule
 - c. Eddy currents
 - d. Faraday's 1st law
13. The resting membrane potential of the skeletal muscle is: (DSSSB 2015, JIPMER 2014)
 - a. -60 mV
 - b. -70 mV
 - c. -90 mV
 - d. -50 mV
14. Direct heat transfer from one molecule to another through a medium is called heat loss by: (ESIC 2016)
 - a. Radiation
 - b. Conduction
 - c. Convection
 - d. Evaporation

Ans.

1. d
2. c
3. a
4. a
5. d
6. c
7. b
8. a
9. d
10. b
11. c
12. a
13. c
14. b

EXPLANATIONS

1. Accommodation refers to the nerve's reduced responsiveness to a constant or repetitive electrical stimulus. Propagation is the transmission of nerve impulses; Chronaxie is the minimum time required to stimulate a nerve at twice the rheobase; and Rheobase is the minimum current intensity needed to excite a nerve.

(Clayton's Electrotherapy/Forster/9th Ed./Pg. 60)

2. During cold exposure, initially, vasoconstriction occurs to conserve heat and prevent heat loss from the body's surface. This reduces blood flow to the extremities. However, prolonged exposure to cold can lead to tissue damage due to reduced blood flow. In response to this, the body undergoes vasodilation to increase blood flow and prevent tissue damage. This apparent 'hunting' for a mean point of circulation is called 'Lewis Hunting Reaction'.

(Textbook of Rehabilitation/Sunder/3rd Ed./Pg. 274)

3. Continuous shortwave diathermy penetrates up to 6 cm, generating deep tissue heating. It targets muscles and joints but not internal organs.

(Textbook of Electrotherapy/Jagmohan/2nd Ed./Pg. 171)

4. The unit of electrical resistance is ohm, represented by the symbol Ω .

(Physical Agents in Rehabilitation/Cameron/4th Ed./Pg. 419)

5. Conventional TENS (transcutaneous electrical nerve stimulation) is characterized by high-frequency (usually 100–150 Hz) and low-intensity stimulation that produces a comfortable tingling sensation without muscle contraction. It acts mainly through the gate control theory of pain by stimulating large-diameter A-beta sensory fibers.

(Physical Agents in Rehabilitation/Cameron/4th Ed./Pg. 257)

6. In iontophoresis, electrically charged medication ions are introduced into the body tissues by applying a direct current (DC). Iontophoresis is based on the principle that like charges repel, and therefore a fixed charge electrode on the skin can promote the

movement of charged ions of a drug through the skin by 'pushing' them away.

(Physical Agents in Rehabilitation/Cameron/4th Ed./Pg. 272)

7. Interferential current therapy involves the use of two medium-frequency electrical currents that intersect and produce a low-frequency effect within the body. When the currents intersect, they interfere, producing higher amplitude when both currents are in the same phase and lower amplitude when the two currents are in opposite phases. This produces envelopes of pulses known as beats.

(Physical Agents in Rehabilitation/Cameron/4th Ed./Pg. 224)

8. Continuous passive motion apparatus is a device used in physical therapy to move a joint continuously through a controlled range of motion. It is commonly used after surgery or injury, particularly in the knee joint, to prevent stiffness and promote healing by increasing the range of motion gradually.

(Therapeutic Exercise/Kisner/7th Ed./Pg. 78)

9. The crossfire method involves positioning the electrodes diagonally across the treatment area. This method is particularly useful when treating areas with air cavities (such as frontal, maxillary, and ethmoid sinuses for sinusitis) as it allows for more efficient penetration of electromagnetic energy into deeper tissues while minimizing reflections from air pockets.

(Electrotherapy Simplified/Nanda/2nd Ed./Pg. 323)

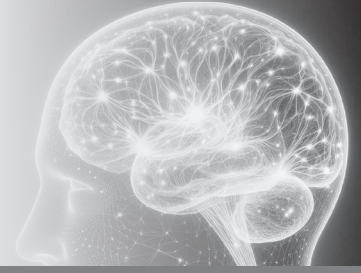
10. TENS is effective for managing Complex regional pain syndrome (CRPS) or shoulder-hand syndrome. It modulates pain through pain gate and endorphin release.

(Textbook of Electrotherapy/Jagmohan/2nd Ed./Pg. 133)

11. Massage therapy involves manual techniques to improve joint range of motion and reduce muscle tightness. Other options like ultrasound and electrical stimulation are not manual techniques.

(Exercise Therapy Principles and Practice/RL Meena/2nd Ed./Pg. 135)

4



NEUROLOGY

1. Normal motor conduction velocity in upper limb is: (JIPMER 2014, UPUMS Saifai 2024)
 - a. <40 m/sec
 - b. 45–70 m/sec
 - c. 70–80 m/sec
 - d. None of these
2. In the context of post splinting assessment, which combination of parameters is most critical for evaluating distal neurovascular integrity? (RRB 2025)
 - a. Pain, mobility, skin temperature
 - b. Pressure, moisture, skin color
 - c. Palpation, muscle tone, stretch reflex
 - d. Pulse, motor function, sensory response
3. Broca's area is: (RGUHS MPT 2017)
 - a. 41
 - b. 42
 - c. 43
 - d. 44
4. In poliomyelitis, destruction occurs in _____ (SCTIMST 2023, RPSE 2016, JIPMER 2014, NCL 2020, UPUMS Saifai 2024)
 - a. Muscle
 - b. Peripheral nerve
 - c. Anterior horn cells
 - d. Posterior horn cells
5. Injury to C8 and T1 nerve roots of brachial plexus causes: (KPSC 2017)
 - a. Erb's palsy
 - b. Klumpke's palsy
 - c. Radial nerve palsy
 - d. Axillary nerve palsy
6. Most common cause of neuropathic joint: (NCL 2020)
 - a. Syphilis
 - b. Leprosy
 - c. Rheumatoid arthritis
 - d. Diabetes
7. Lack of awareness and denial of the paralysis in stroke is called: (KEA MPT 2020)
 - a. Autopagnosia
 - b. Prosopagnosia
 - c. Anosognosia
 - d. Astereognosis
8. Apraxia is a result of lesion in: (DSSSB 2015)
 - a. Frontal lobe
 - b. Parietal lobe
 - c. Occipital lobe
 - d. Temporal lobe
9. Pain sensation is carried by: (ESIC 2016, SVNIRTAR MPT 2023, SPSC 2019, GPSC 2024, Saifai 2024)
 - a. Posterior column
 - b. Lateral spinothalamic tract
 - c. Anterior spinothalamic tract
 - d. Dorsal spinocerebellar tract
10. TIAs occur in which syndrome? (RSMSSB NHM 2025)
 - a. Hughes syndrome
 - b. Nelson syndrome
 - c. Binswanger syndrome
 - d. Gerstmann - Straussler - Scheinker syndrome
11. In chronic pain, emotional responses, such as fear, anxiety, catastrophization, distress indicate: (TSPSC 2018)
 - a. Red flag
 - b. Green flag
 - c. Yellow flag
 - d. Black flag
12. Which one of the following symptoms is not seen in Horner's syndrome? (RRB 2019)
 - a. Miosis
 - b. Enophthalmos
 - c. Exophthalmos
 - d. Anhidrosis
13. Ramsay Hunt syndrome caused due to the involvement of: (GNDU Ortho MPT 2020)
 - a. Radial nerve
 - b. Facial nerve
 - c. Axillary nerve
 - d. Vagus nerve
14. Which of the following symptoms is considered a red flag sign in physiotherapy assessment, indicating a potential serious spinal cord injury? (IPUCET 2024)
 - a. Tingling sensation in the hands and feet
 - b. Radiating pain down one leg with coughing or sneezing
 - c. Loss of bowel or bladder control
 - d. Muscle stiffness and soreness after exercise
15. The higher center of speech is in: (AIIMS Patna 2019)
 - a. Cerebellum
 - b. Midbrain
 - c. Cerebral cortex
 - d. Pons

Ans.

1. b
2. d
3. d
4. c
5. b
6. d
7. c
8. b
9. b
10. a
11. c
12. c
13. b
14. c
15. c

EXPLANATIONS

1. Motor conduction velocity refers to the speed at which electrical impulses travel along motor nerves. In the upper limb, the normal motor conduction velocity ranges from 45 m/s to 70 m/s. In the lower limb, the normal motor conduction velocity ranges from 40 m/s to 60 m/s.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 198)

2. After splint application, distal neurovascular assessment is essential to identify any vascular or nerve compromise. This assessment is commonly guided by the 5 Ps namely pain, pallor, pulse, paresthesia, and paralysis. Checking the pulse reflects arterial circulation, while motor and sensory testing helps in early detection of nerve involvement.

(Essential Orthopaedics/Maheshwari/5th Ed./Pg. 47)

3. Broca's area is a region in the frontal lobe of the dominant hemisphere (usually the left hemisphere) of the brain. Broca's area is localized to Brodmann area 44.

(Early Clinical Exposure in Anatomy/A.Reddy/1st Ed./Pg. 234)

4. The damage occurs mainly in the anterior horn cells of the spinal cord. These anterior horn cells are responsible for transmitting motor signals from the spinal cord to the muscles, controlling voluntary movement. When the poliovirus infects and damages these anterior horn cells, it results in paralysis and weakness of the muscles controlled by those affected nerves.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 200)

5. C8 and T1 nerve roots are part of the lower portion of the brachial plexus. The main mechanism of injury is hyperabduction traction and depending on intensity. Erb's palsy, on the other hand, involves injury to the upper brachial plexus (C5-C6 roots).

(Fetal and Neonatal Physiology/Jnah/1st Ed./Pg. 450)

6. Diabetic neuropathy is a generic term for any diabetes mellitus-related disorder of the peripheral or autonomic nervous systems or the cranial nerves. The majority of symptoms from diabetic neuropathy

will be located in the LE with foot insensitivity and subsequent ulceration being the most common. This chronic stress on the joint eventually leads to joint destruction, deformity, and instability. While other conditions such as syphilis, leprosy, and rheumatoid arthritis can also cause neuropathic joint, diabetes remains the most common etiology in clinical practice.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 591)

7. Anosognosia specifically manifests as a lack of awareness or recognition of paralysis. Autopagnosia, on the other hand, refers to a deficit in recognizing one's own body parts. Prosopagnosia is the inability to recognize faces, and astereognosis refers to the inability to recognize objects by touch.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 1244)

8. Apraxia refers to the loss of the ability to execute or carry out learned purposeful movements, despite having the physical ability and comprehension to perform them. Lesions of the premotor frontal cortex of either hemisphere, left inferior parietal lobe, and corpus callosum can produce apraxia.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 672)

9. Pain sensation is carried by the lateral spinothalamic tract. This tract is responsible for transmitting pain, temperature, and crude touch sensations from the body to the brain. Posterior column carries sensations of fine touch, vibration, and proprioception. Anterior spinothalamic tract carries crude touch and pressure sensations. Dorsal spinocerebellar tract conveys proprioceptive information from the lower body to the cerebellum for coordination of movement.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 100)

10. Hughes syndrome, also called antiphospholipid antibody syndrome, increases risk of thrombosis and transient ischemic attacks. It is characterized by recurrent clotting, miscarriages, and stroke-like events due to abnormal immune-mediated coagulation pathways.

(Transient Ischemic Attack and Stroke/Pendlebury/1st Ed./Pg. 72)



ORTHOPEDICS

1. Which one of the following is not a surgical option for prevention of congenital scoliosis? (AIIMS Jodhpur 2023)
 - a. Fusion with instrumentation and allograft
 - b. Convex growth arrest
 - c. Hemivertebra excision
 - d. Kyphectomy
2. Pott fracture is fracture of which part? (AIIMS Rishikesh 2023)
 - a. First cervical vertebra fracture
 - b. Bimalleolar ankle fracture
 - c. Neck of talus fracture
 - d. Bilateral pubic rami fracture
3. Housemaid's knee refers to: (NCL 2020, ESIC 2016, SPSC 2019)
 - a. Infrapatellar bursitis
 - b. Prepatellar bursitis
 - c. Suprapatellar bursitis
 - d. Quadriceps bursitis
4. In a flap method of amputation, which structure is kept shorter than the level of amputation? (KEA MPT 2020)
 - a. Bone
 - b. Muscle
 - c. Nerve
 - d. Skin
5. Which joint is most commonly affected in septic arthritis in children? (RRB 2025)
 - a. Knee
 - b. Wrist
 - c. Shoulder
 - d. Elbow
6. All of the following clinical feature a lab finding in favor of Duchenne muscular dystrophy; except: (RPSC 2020)
 - a. Calf pseudohypertrophy
 - b. Abnormal nerve conduction study
 - c. Proximal symmetrical weakness
 - d. Positive Gower's sign
7. Osteochondritis of the epiphysis of femoral head is known as: (KPSC 2020)
 - a. Keinbock's disease
 - b. Perthe's disease
 - c. Calve's disease
 - d. Panner's disease
8. In a dislocated knee, which structure is most at risk of injury? (UPUMS Saifai 2024)
 - a. Popliteal artery and nerve
 - b. Patellar tendon
 - c. Quadriceps tendon
 - d. Meniscus
9. Leprosy (Hansen's disease) is caused by: (TNMRB 2025)
 - a. *Mycobacterium leprae*
 - b. *Cytomegalovirus*
 - c. *Mycobacterium tuberculosis*
 - d. *Borrelia burgdorferi*
10. The most common mechanism for an anterior talofibular ligament sprain is: (PGPCET 2015)
 - a. Inversion and dorsiflexion
 - b. Inversion and plantarflexion
 - c. Inversion
 - d. Pronation, eversion and dorsiflexion
11. In disorders of the hip joint, SCFE stands for: (CGPSC 2022)
 - a. Supracapital femoral extension
 - b. Superior capital femoral epiphysis
 - c. Slipped capital femoral epiphysis
 - d. Short capital femoral epiphysis
12. Which of the following activities is not recommended for preserving the longevity of an artificial knee? (AIIMS Bhubaneswar 2023)
 - a. Skiing
 - b. Light hikes
 - c. Swimming
 - d. Running
13. Which of the following is a traumatic orthopedic disorder? (Safdarjung Hospital 2023)
 - a. Fracture
 - b. Osteoporosis
 - c. Rickets
 - d. Hypopituitarism
14. Which of the following nerves is commonly injured in supracondylar fracture of humerus? (IPUCET 2024)
 - a. Anterior interosseous nerve
 - b. Posterior interosseous nerve
 - c. Radial nerve
 - d. Musculocutaneous nerve

Ans.

1. d
2. b
3. b
4. a
5. a
6. b
7. b
8. a
9. a
10. b
11. c
12. d
13. a
14. a

EXPLANATIONS

1. Kyphectomy is not used as a surgical option to prevent congenital scoliosis; instead, it is commonly performed in cases of myelomeningocele.

(*The Growing Spine/Behrooz/1st Ed./Pg. 407*)

2. Pott's fracture refers to a bimalleolar ankle fracture, involving fractures of both the medial and lateral malleoli of the ankle.

(*Essential Orthopaedics/Maheshwari/5th Ed./Pg. 3*)

3. Housemaid's knee refers to prepatellar bursitis. This condition is commonly seen in individuals who frequently kneel, such as housemaids; hence the name housemaid's knee.

(*Essential Orthopaedics/Maheshwari/5th Ed./Pg. 301*)

4. This technique involves creating a flap of skin and soft tissue to cover the amputation site while ensuring that the bone is cut slightly shorter than the soft tissue flap. This helps to promote better healing and coverage of the bone stump with healthy tissue.

(*Textbook of Orthopedics/Ebnezar/6th Ed./Pg. 788*)

5. Septic arthritis is defined as a bacterial infection of the joint, which causes an intense inflammatory reaction with migration of polymorphonuclear leukocytes, and subsequent release of proteolytic enzymes. This could lead to destruction of the articular cartilage and later the joint. Septic arthritis commonly affects large joints, with the knee being the most frequent site (53%), followed by the hip (20%), elbow (17%), and shoulder (10%), making these joints particularly vulnerable.

(*Textbook of Orthopedics/Ebnezar/4th Ed./Pg. 575–576*)

6. In Duchenne muscular dystrophy (DMD), nerve conduction studies are normal because the primary pathology is related to muscle weakness and degeneration rather than nerve dysfunction.

(*Apley's System of Orthopaedics and Fractures/Solomon/9th Ed./Pg. 265*)

7. The osteochondritis of the epiphysis of the femoral head is known as Perthes disease. This condition,

also called Legg-Calve-Perthes disease, involves the temporary loss of blood supply to the femoral head. Kienböck disease refers to avascular necrosis of the lunate bone. Panzer's disease is a condition involving osteochondrosis of the capitellum, which is a part of the humerus bone in the elbow joint.

(*Apley's System of Orthopaedics and Fractures/Solomon/9th Ed./Pg. 511*)

8. A knee dislocation can injure the popliteal artery that lies directly behind the joint because it has little room to stretch; even partial tears can threaten blood flow to the leg. Injury to tendons or meniscus is less urgent compared to this limb-threatening vascular complication.

(*Emergency Medicine Concepts and Clinical Practice/Marx/8th Ed./Pg. 509*)

9. Leprosy or Hansen's disease is a chronic granulomatous infection caused by *Mycobacterium leprae*, affecting skin and peripheral nerves. It is unrelated to *Mycobacterium tuberculosis* (tuberculosis), Cytomegalovirus or *Borrelia burgdorferi* (Lyme disease).

(*Essential Orthopaedics/Maheshwari/5th Ed./Pg. 179*)

10. The anterior talofibular ligament is most commonly injured when the ankle is forced into inversion while in plantarflexion. In this position, the ligament is under maximum stress and becomes vulnerable to sprain. This mechanism is frequently seen during activities such as sudden twisting of the foot or landing awkwardly.

(*Rosen's Emergency Medicine/JA Marx/8th Ed./Pg. 731*)

11. The correct expansion for SCFE is slipped capital femoral epiphysis. This condition involves the slippage of the femoral head relative to the femoral neck through the growth plate in the hip joint. It presents usually in an overweight or obese, rapidly growing male, and individuals of age 10–14 years. It is bilateral in 50% of the cases.

(*Netter's Sports Medicine/Madden/1st Ed./Pg. 61*)



BIOMECHANICS

1. Which of the following best describes biomechanics? (IPUCET 2024)
 - a. The study of living organisms and their interaction with their surroundings
 - b. The study of forces and their effects on living systems
 - c. The study of chemical processes within living organisms
 - d. The study of energy transfer in living organisms
2. In high steppage gait, there is weakness of: (JIPMER 2014, PDUNIPPD 2024)
 - a. Ankle plantar flexors
 - b. Ankle dorsiflexors
 - c. Knee extensors
 - d. Hip extensors
3. Pulleys are used to: (RPSE 2016, SPSC 2019)
 - a. Make the work easy
 - b. Alter the direction of motion
 - c. Gain mechanical efficiency
 - d. All of the above
4. Gait cycle begins with: (KPSC 2017)
 - a. Heel strike
 - b. Midstance
 - c. Push off
 - d. Swing phase
5. Pronation and supination take place on: (GPSC 2024)
 - a. Sagittal plane and frontal axis
 - b. Frontal plane and sagittal axis
 - c. Transverse plane and vertical axis
 - d. Coronal plane and horizontal axis
 - e. None of the above
6. Movements possible in condyloid joint are: (NCL 2020)
 - a. Flexion and extension
 - b. Circumduction only
 - c. Flexion, extension, abduction, adduction
 - d. Flexion, extension, abduction, adduction and circumduction
7. Which of the following is not part of the triangular fibrocartilage complex of wrist joint? (PDUNIPPD 2024)
 - a. Ulnar articular cartilage
 - b. Radial collateral ligament
 - c. Ulnar collateral ligament
 - d. Dorsal radioulnar ligament
8. SCM tightness is characterized by: (JMI MPT 2022, SPSC 2019)
 - a. Neck side flexion toward the affected side with rotation to the opposite
 - b. Neck side flexion toward the sound side with rotation to the affected side
 - c. Neck side flexion and rotation toward the affected side
 - d. Neck side flexion and rotation toward the sound side
9. A step frequency or cadence which is considered typical for adult male and women is: (KEA MPT 2020)
 - a. 110 and 116 respectively
 - b. 116 and 110 respectively
 - c. 140 and 160 respectively
 - d. 160 and 140 respectively
10. Stability of knee joint depends mainly on: (DSSSB 2015)
 - a. Bony configuration
 - b. Muscles
 - c. Ligament
 - d. Tendons
11. All of the following are in the normal gait cycle; except: (SCTIMST 2023)
 - a. Swing phase
 - b. Mid swing
 - c. Initial contact
 - d. Heel flat
12. The neutral zone of spinal motion segment is the area situated at the _____ range. (JEMAS MPT 2023)
 - a. Initial range
 - b. Mid-range
 - c. Terminal range
 - d. Full range
13. Which type of collagen is predominantly found in hyaline articular cartilage? (TSPSC 2018)
 - a. Type I
 - b. Type II
 - c. Type III
 - d. Type IV
14. The line of gravity in human body is: (TNMRB 2025)
 - a. Is curvaceous in females
 - b. Horizontal line
 - c. Vertical line through the center of gravity
 - d. Oblique line

Ans.

1. b
2. b
3. d
4. a
5. c
6. d
7. b
8. a
9. a
10. c
11. d
12. b
13. b
14. c

EXPLANATIONS

1. Biomechanics is the study of the forces acting on living organisms and the effects of those forces on the structure and function of biological systems. It includes the analysis of movement, posture, and mechanical properties of tissues, and helps in understanding the mechanics of body movements and injury prevention.

(Clinical Kinesiology and Anatomy/Lynn/5th Ed./Pg. 4)

2. In high steppage gait, there is weakness or paralysis of the ankle dorsiflexor muscles. When these muscles are weak or paralyzed, the affected individual compensates by lifting the leg higher than usual during walking in order to prevent the foot from dragging on the ground. This results in a characteristic high-stepping appearance during walking.

(Clinical Kinesiology and Anatomy/Lynn/5th Ed./Pg. 350)

3. All of the above correctly describe the various functions and benefits of using pulleys.

(Joint Structure and Function/Norkin/5th Ed./Pg. 40)

4. The gait cycle begins with heel strike, also known as initial contact, which occurs when the heel of one foot first touches the ground.

(Joint Structure and Function/Norkin/5th Ed./Pg. 527)

5. Pronation and supination occur in the transverse plane around the vertical axis. These movements involve the forearm, with pronation rotating the palm downward and supination rotating it upward.

(Joint Structure and Function/Norkin/5th Ed./Pg. 272)

6. It is considered a condyloid joint with three degrees of freedom: flexion/extension, abduction/adduction and circumduction.

(Joint Structure and Function/Norkin/5th Ed./Pg. 93)

7. The triangular fibrocartilage complex (TFCC) is composed of structures that stabilize the distal radioulnar joint and support the ulnar side of the wrist. It includes the ulnar articular disc, ulnar collateral ligament, dorsal and volar radioulnar ligaments, and the extensor carpi ulnaris (ECU)

sheath. The radial collateral ligament is not part of the TFCC.

(Joint Structure and Function/Norkin/5th Ed./Pg. 307)

8. The sternocleidomastoid muscle (SCM) tightness is characterized by neck side flexion toward the affected side accompanied by rotation of the head toward the opposite side. This pattern reflects the restrictive influence of the shortened SCM muscle on neck movement.

(Joint Structure and Function/Norkin/5th Ed./Pg. 179)

9. The normal walking cadence in adults shows slight variation between males and females. On average, adult males walk at about 110 steps per minute, while adult females walk at around 116 steps per minute.

(Joint Structure and Function/Norkin/5th Ed./Pg. 528)

10. The stability of the knee joint primarily depends on the integrity and function of its ligaments. Ligaments, such as the cruciate and collateral ligaments, provide crucial structural support by limiting excessive movements and maintaining proper alignment of the joint.

(Clinical Kinesiology and Anatomy/Lynn/5th Ed./Pg. 287)

11. Heel flat is not a part of normal gait cycle.

(Joint Structure and Function/Norkin/5th Ed./Pg. 527)

12. The neutral zone of a spinal motion segment refers to the range of motion (ROM) where minimal resistance is encountered from passive structures such as ligaments and joint capsules. It occurs in the mid-ROM and represents the area of greatest flexibility and minimal stiffness. Beyond this zone, stability depends more on passive structures.

(Gray's Anatomy: The Anatomical Basis of Clinical Practice/45th Ed./Pg. 705–707)

13. Hyaline articular cartilage, which covers the ends of bones in joints, predominantly contains type II collagen. Type I collagen is the most abundant collagen type in the body (90%). It is primarily found in tendons, ligaments, skin, bone, and other connective tissues where strength and resistance



CARDIOPULMONARY

1. The measurement of the distensibility of a structure or system is termed: (RGUHS MPT 2017)
 - a. Extensibility
 - b. Elasticity
 - c. Compliance
 - d. Pressure
2. Vibration and shaking to chest are used in conjunction with postural drainage to clear airway secretions. They are typically performed only during: (CUET MPT 2023)
 - a. Inspiration
 - b. Expiration
 - c. Inspiration and expiration both
 - d. Peak inspiration
3. Which of the following measures is most important in preventing postoperative pulmonary embolism? (JIPMER 2014)
 - a. Deep breathing
 - b. Incentive spirometry
 - c. Coughing
 - d. Ankle pump
4. Volume of air breath in and out of the lungs in single normal respiration is called:
 - a. Tidal volume (KPSC 2017, PGPCET 2020)
 - b. Inspiratory reserve volume
 - c. Expiratory reserve volume
 - d. Residual volume
5. Cardiac muscle ability to regenerate is: (NCL 2020, SCTIMST 2023)
 - a. Partial
 - b. None
 - c. Full and complete
 - d. Variable
6. In ECG waves ventricular depolarization is represented by: (KEA MPT 2020)
 - a. P wave
 - b. ST segment
 - c. QRS complex
 - d. T wave
7. Which of the following findings is commonly associated with left heart failure? (DSSSB 2015)
 - a. Distended neck veins
 - b. Liver and spleen congestion
 - c. Peripheral edema
 - d. Pulmonary edema
8. Jugular venous pressure is a direct indicator of: (ESIC 2016)
 - a. Left atrial pressure
 - b. Right atrial pressure
 - c. Right ventricular pressure
 - d. Left ventricular
9. Progressive fibrosing of interstitial pneumonia of unknown cause occurs in adults is called:
 - a. Idiopathic pulmonary fibrosis (TNMRB 2025)
 - b. Nonspecific interstitial
 - c. Acute interstitial pneumonia
 - d. Lymphatic interstitial pneumonia
10. Respirations that are regular but abnormally deep and increased in rate are called: (TSPSC 2018)
 - a. Cheyne-Stokes respiration
 - b. Biot respiration
 - c. Kussmaul's respiration
 - d. Hyperventilation
11. Which disease almost always causes Pigeon chest deformity? (RRB 2019)
 - a. Severe asthma from childhood
 - b. Tuberculosis
 - c. Severe asthma in adulthood
 - d. Bronchiectasis
12. Which of the following is a noninvasive measure of cardiac electrical activity commonly used to diagnose arrhythmias and assess heart rate and rhythm? (GU 2024)
 - a. Echocardiogram
 - b. Cardiac catheterization
 - c. Electrocardiogram (ECG)
 - d. Holter monitoring
13. The electrocardiographic waves are: (AIIMS Patna 2019)
 - a. Alpha, Beta and Theta waves
 - b. A, CVX and Y waves
 - c. P, QRS and T waves
 - d. L, MNO and X waves

Ans.

1. c
2. b
3. d
4. a
5. b
6. c
7. d
8. b
9. a
10. c
11. a
12. c
13. c

EXPLANATIONS

1. Compliance is the ease with which an elastic structure stretches. Compliance is, therefore, basically a measurement of the elastic resistance of a system. Pulmonary compliance is the total compliance of both lungs, measuring the extent to which the lungs will expand for each unit increase in the transpulmonary pressure.

(Cash/Patricia/4th Ed./Pg. 90)

2. Vibration and shaking techniques help mobilize and loosen mucus in the airways, making it easier to clear secretions during the expiratory phase of breathing. Unlike percussion, which is performed during both the inspiratory and expiratory phases, these methods are applied exclusively during expiration.

*(Cardiovascular and Pulmonary Physical Therapy/
Frownfelter/5th Ed./Pg. 317)*

3. Ankle pump exercises are essential for preventing postoperative pulmonary embolism by promoting leg circulation and reducing blood stasis, which helps to prevent DVT and subsequent embolism. While deep breathing exercises and incentive spirometry improve lung function after surgery, and coughing aids in clearing secretions from the upper airways, ankle pumps specifically target DVT risk, making them vital for preventing embolic complications.

(Therapeutic Exercise/Kisner/6th Ed./Pg. 782)

4. Tidal volume is the amount of air moved into or out of the lungs during normal, quiet breathing. It represents the volume of air inspired or expired with each breath under resting conditions. The normal adult tidal volume is 500 mL of air. The amount of inspired air that actually reaches the distal respiratory unit and takes part in gas exchange is about 350 mL of that 500 mL total of the tidal breath. The remaining 150 mL of the inhaled tidal breath remains in the conducting airways and does not take part in gas exchange.

*(Physiotherapy in Respiratory Care/Alexandra/
3rd Ed./Pg. 57)*

5. After injury, cardiac muscle cells do not regenerate themselves to a significant extent. Instead, damaged cardiac muscle tissue is replaced by scar tissue, which can affect heart function.

(Cardiac Regeneration and Repair/R.K Li/1st Ed./Pg. 64)

6. The QRS complex denotes electrical flow through the ventricles causing ventricular depolarization. The P wave depicts sinus node and atrial depolarization. The PR segment demonstrates conduction through AV node. The ST segment describes the initiation of ventricular repolarization. The T wave illustrates the completion of ventricular repolarization.

(Clinical Electrocardiography/Golberger/9th Ed./Pg. 7)

7. Left sided heart failure occurs with LV insult. Pathology of the LV reduces the CO leading to a backup of fluid into the LA and lungs. The increased fluid in the lungs produces shortness of breath (SOB), cough, and pulmonary edema. Primary right-sided heart failure occurs from direct insult to the RV caused by conditions that increase PA pressure. Increased pressure within the PA subsequently increases the afterload, thereby placing greater demands on the RV and causing it to go into failure. With RV failure, blood is not effectively ejected from the RV and backs up into the RA and venous vasculature, producing jugular venous distention, peripheral edema, and liver and spleen congestion.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 542)

8. The jugular venous pressure reflects pressure in right atrium of the heart.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 527)

9. Idiopathic Pulmonary Fibrosis (IPF) is a chronic, progressive interstitial lung disease in adults characterized by fibrosis of lung tissue with unknown cause.

*(Cardiovascular and Pulmonary Physical Therapy/
Frownfelter/5th Ed./Pg. 93)*



PHYSIOTHERAPY IN MEDICAL AND SURGICAL CONDITIONS

1. A decubitus ulcer extends through the cutaneous tissue and has subcutaneous fat visible at the bottom of the wound. What is the stage of this decubitus ulcer? (JIPMER 2014, UPUMS Saifai 2024)
 - a. Stage 1
 - b. Stage 2
 - c. Stage 3
 - d. Stage 4
2. Bisgaard method of treatment is used for treating: (ESIC 2016)
 - a. Gangrene
 - b. Thrombophlebitis
 - c. Raynaud's disease
 - d. Venous ulcers
3. The most common form of hernia is: (RGUHS MPT 2017)
 - a. Richter's hernia
 - b. Strangulated hernia
 - c. Inflamed hernia
 - d. Indirect inguinal hernia
4. Repair of the perforation of tympanic membrane is called: (AIIMS Patna 2019)
 - a. Vestibuloplasty
 - b. Myringoplasty
 - c. Mastoidectomy
 - d. Angioplasty
5. Peeling off thickened fibrosed visceral pleura is known as: (AIIMS Rishikesh 2023)
 - a. Pleurectomy
 - b. Pleurodesis
 - c. Decortication
 - d. Wedge resection
6. An example of a nonprogressive tumor often cured by surgical resection is: (NTA DU 2021)
 - a. Meningioma
 - b. Glioblastoma
 - c. Astrocytoma
 - d. Oligodendroglioma
7. A patient has right leg pain and displays redness and swelling throughout the foot and ankle distal to the knee that has developed over the last 3 days. The patient reports no trauma and complaints of a deep ache in the calf musculature. What is the most appropriate initial treatment? (SVNIRTAR MPT 2023)
 - a. Refer to physician to further examination
 - b. Elevate the lower extremity and apply an ice modality
 - c. Instruct the patient on ROM exercises and begin a home exercise program
 - d. Perform instrument assisted soft tissue mobilization to decrease swelling
8. A short stocky child has a disproportionately large head and trunk with respect to limbs, puffy face, and thick and pigmented skin. The child presents with hypotonia and growth retardation. What is the child most likely to be suffering from? (AJIPT MPT 2021)
 - a. Hypothyroidism
 - b. Hyperparathyroidism
 - c. Congenital adrenal hyperplasia
 - d. Growth hormone deficiency
9. Excessive RBC in urine is: (CGPSC 2016)
 - a. Thrombocytosis
 - b. Pyuria
 - c. Hematoma
 - d. Hematuria
10. Following antigens are present in pentavalent vaccine; except: (RSMSSB NHM 2025)
 - a. Diphtheria
 - b. Pertussis
 - c. Hepatitis B
 - d. Poliovirus
11. Which type of illness, if contracted during the first 3 months of pregnancy, can cause deafness in newborn babies? (AIIMS Bhubaneswar 2023)
 - a. German measles (rubella)
 - b. Polio
 - c. Meningitis
 - d. Tuberculosis
12. During a thoracotomy, which structure is typically accessed for surgical procedures within the chest cavity? (GU 2024)
 - a. Heart
 - b. Lungs
 - c. Esophagus
 - d. Liver
13. Universal donor blood group is: (NCL 2020, PDUNIPD 2024)
 - a. A
 - b. B
 - c. O
 - d. AB

Ans.

1. c
2. d
3. d
4. b
5. c
6. a
7. a
8. a
9. d
10. d
11. a
12. b
13. c

EXPLANATIONS

1. The decubitus ulcer that extends through the cutaneous tissue to expose subcutaneous fat is classified as a stage 3 ulcer. Stage 1 is the mildest stage where the skin is intact but may show nonblanchable redness. In stage 2, there is partial thickness skin loss involving the epidermis and dermis. The ulcer is superficial and presents as an abrasion, blister or shallow crater. Stage 4 is the most severe stage where there is full thickness tissue loss with exposure of muscle, bone or supporting structures.

(Pathology and Intervention in Musculoskeletal Rehabilitation/Magee/2nd Ed./Pg. 32)

2. The Bisgaard method of treatment is used for the management of venous ulcers. It involves the application of compression bandages to improve venous circulation and aid in wound healing.

(Manipal Manual of Surgery/Shenoy/4th Ed./Pg. 139)

3. Inguinal hernias are the most common type, accounting for 75% of all hernias. Inguinal hernia occurs either through the deep inguinal ring (indirect hernia) or through the posterior wall of the inguinal canal (direct hernia).

(Manipal Manual of Surgery/Shenoy/4th Ed./Pg. 842–845)

4. Repair of a perforated tympanic membrane is called myringoplasty. It aims to restore the eardrum in order to protect against extrinsic contamination by water and to improve hearing.

(Scott-Brown's Otorhinolaryngology Head & Neck Surgery/JC Watkinson/8th Ed./Pg. 1021)

5. Peeling off thickened fibrosed visceral pleura is termed 'decortication'. This surgical procedure is performed to remove the thickened or fibrosed pleura, often done to improve lung expansion in conditions like pleural effusion or fibrosis.

(Manipal Manual of Surgery/Shenoy/4th Ed./Pg. 1019)

6. An example of a nonprogressive tumor often cured by surgical resection is meningioma. Meningiomas are slow-growing tumors that arise from the meninges.

(Manipal Manual of Surgery/Shenoy/4th Ed./Pg. 1043)

7. Given the symptoms described—pain, redness, swelling, and calf muscle ache—it is important to consider the possibility of deep vein thrombosis (DVT) or another serious condition affecting the leg. Therefore, the most appropriate initial treatment in this scenario would be to refer the patient to a physician for further examination and evaluation.

(Textbook of Medicine/SN Chugh/2nd Ed./Pg. 280)

8. The described child likely has hypothyroidism, characterized by stunted growth, disproportionate body proportions, coarse facial features, and developmental delays. Hypotonia and growth retardation are common manifestations of thyroid hormone deficiency from birth, known as congenital hypothyroidism.

(Textbook of Medicine/SN Chugh/2nd Ed./Pg. 812)

9. Excessive red blood cells in urine are indicative of hematuria.

(Comprehensive Pediatric Nephrology/DF Geary/1st Ed./Pg. 179)

10. The pentavalent vaccine protects against diphtheria, pertussis, tetanus, hepatitis B, and hemophilus influenzae type B. Poliovirus is not included, as it is given separately through oral or injectable polio vaccines.

(IAP Textbook of Tropical Disease/RC Shah/1st Ed./Pg. 257)

11. German measles (rubella) is known to cause congenital deafness in newborn babies, if the mother contracts the illness during the first 3 months of pregnancy.

(Textbook of Medicine/SN Chugh/2nd Ed./Pg. 948)

12. A thoracotomy is a surgical procedure involving an incision into the chest wall to access intrathoracic structures.

(Mastering Medical Terminology/Walker/2nd Ed./Pg. 212)

13. The universal donor blood group is O, as it lacks A and B antigens on the red blood cells, making it compatible with all blood types for transfusion. Persons of group AB have no circulating agglutinins



REHABILITATION

1. **Percentage of impairment in case of unilateral above knee amputee is:** (GSSSB 2016)
 - a. 85%
 - b. 80%
 - c. 75%
 - d. 70%
2. **Which of the following brace is not used in correcting scoliosis?** (NIA 2021)
 - a. Milwaukee
 - b. Jewett
 - c. Boston
 - d. Wilmington
3. **What is the purpose of advocacy and negotiation skills in CBR?** (AIIMS Bhubaneswar 2023)
 - a. To create more barriers for disabled individuals
 - b. To ask for donations for CBR programs
 - c. To persuade decision-makers to provide institutional care
 - d. To advocate for the rights and needs of people with disabilities
4. _____ **refers to any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being resulting from impairment?** (AIIMS Patna 2019, KEA MPT 2020)
 - a. Handicap
 - b. Disability
 - c. Retarded
 - d. Impairment
5. **Gender, age, education and lifestyle are few examples of which component of ICF?** (GSSSB 2020)
 - a. Contextual factors
 - b. Personal factors
 - c. Environmental factors
 - d. Universal factors
6. **A patient who has suffered a stroke is having difficulty walking due to an extensor synergy in the lower extremity. Which of the following will be most beneficial initial intervention to improve the patient's ability to walk?** (JIPMER 2014)
 - a. Fit the patient with an ankle-foot orthosis
 - b. Begin training with a single Lofstrand crutch to maintain balance
 - c. Practice moving the patient out of the synergy pattern to assist in limb advancement
 - d. Begin weight shifting exercises to encourage weight-bearing through the involved lower extremity
7. **Which of the following is not the use of orthosis?** (RSMSSB NHM 2025)
 - a. Immobilize a joint
 - b. Increase range of motion
 - c. Provide support
 - d. Prevent or correct deformity
8. **An important adjunct to physiotherapy management of a child with moderate spastic hemiplegia is use of:** (NTA DU 2021)
 - a. Knee ankle foot orthosis
 - b. Anterior rollator
 - c. Posterior rollator
 - d. Tone-inhibiting ankle-foot orthosis
9. **All of the following statements are correct; except:** (GSSSB 2016)
 - a. Impairment leads to disability
 - b. All impairment lead to disability
 - c. Relationship between impairment and disability is bidirectional
 - d. Some disabilities lead to impairment
10. **Which of the following cervical orthosis provides maximum restriction of motion?** (CGPSC 2022)
 - a. Philadelphia collar
 - b. SOMI
 - c. Halo device
 - d. None of these
11. **Measures of tertiary prevention helps in:** (TNMRB 2025)
 - a. Preventing risk factors
 - b. Limiting disability
 - c. Preventing complications
 - d. Just record purpose
12. **UCBL (University of California – Berkeley Lab) insert is indicated for:** (GPSC 2024)
 - a. Equines foot
 - b. Cavus foot
 - c. Flat foot
 - d. CTEV
 - e. None of the above

Ans.

1. a
2. b
3. d
4. b
5. b
6. a
7. b
8. d
9. b
10. c
11. b
12. c

EXPLANATIONS

1. The percentage of impairment in the case of a unilateral above-knee amputee is assessed at 85%. Hindquarter — 100%, hip disarticulation — 90%, through knee — 75%, below-knee 8 cm — 70%, below-knee up to lower 1/3 of leg — 60%, through ankle — 55%.

(Physical Medicine and Rehabilitation Digest/Rajesh Pramanik/1st Ed./Pg. 59)

2. The Jewett brace is more commonly used for treating compression fractures of the vertebra, intervertebral disc desiccation, Immobilization of spine and is not designed for correcting scoliosis curvature.

(Textbook of Rehabilitation/Sunder/3rd Ed./Pg. 146)

3. The purpose of advocacy and negotiation skills in community-based rehabilitation is to advocate for the rights and needs of people with disabilities.

(Physical Medicine and Rehabilitation/Martin Grabois/1st Ed./Pg.1847)

4. Disability refers to any restriction or lack of ability to perform an activity within range considered normal for a human being, resulting from impairment. It represents the functional consequences of impairment that may limit a person's ability to perform daily activities, e.g., difficulty in walking after lower limb amputation.

(Textbook of Rehabilitation/Sunder/3rd Ed./Pg. 8)

5. The examples provided—gender, age, education, and lifestyle—are part of the personal factors component of the International Classification of Functioning, Disability, and Health (ICF).

(Psychological Aspect of Functioning, Disability, and Health/DB Peterson/1st Ed./Pg. 37)

6. The most beneficial initial intervention to improve walking ability in a stroke patient with extensor synergy in the lower extremity is to fit the patient with an ankle-foot orthosis.

(Orthotics and Prosthetics in Rehabilitation/Michelle/2nd Ed./Pg. 219–235)

7. Orthoses are applied to support musculoskeletal function. Their main purposes include immobilization, correction, support or prevention of deformity. They are not intended to increase range of motion, since by design they restrict or stabilize joints.

(Textbook of Rehabilitation/Sunder/3rd Ed./Pg. 122–123)

8. For a child with moderate spastic hemiplegia, a tone-inhibiting AFO can be an essential adjunct to physiotherapy management. This AFO helps reduce spasticity, supports proper foot alignment, and assists in maintaining functional mobility.

(Orthotics and Prosthetics in Rehabilitation/Michelle/2nd Ed./Pg.219–235)

9. Impairment does not always lead to disability; disability results from the interaction between impairment and the environment. Some disabilities may involve impairment, but not all impairments result in disability; for example, the loss of the pinna of the ear, an impairment, would not lead to loss of hearing but merely a cosmetic deficiency.

(Orthotics and Prosthetics in Rehabilitation/Michelle/2nd Ed./Pg. 6–7)

10. From maximum to minimal restriction of motion, the order of cervical orthoses would be: Halo device (provides maximum restriction), SOMI (Sternal-Occipital-Mandibular Immobilizer, offers substantial restriction), Minerva orthosis (provides moderate restriction), Philadelphia collar (offers minimal restriction).

(Physical Medicine & Rehabilitation/Martin Grabois/1st Ed./Pg. 1146)

11. Tertiary prevention focuses on limiting disability and restoring function after disease onset. It includes rehabilitation and vocational therapy. Primary prevention aims to prevent disease occurrence, while secondary prevention detects early disease; tertiary acts after establishment of pathology.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 1298)



MISCELLANEOUS

1. **Obsessive compulsive disorder belongs to _____ category.** (AIIMS Rishikesh 2023)
 - a. Substance use disorder
 - b. Schizophrenic disorder
 - c. Paranoid disorder
 - d. Anxiety disorder
2. **Components of hypnotic process are:** (RSMSSB NHM 2025)
 - a. Absorption, dissociation, suggestibility
 - b. Sleep, weak mindedness, intrinsically dangerous
 - c. Sex difference, confidence, experiences
 - d. Self-worth, confidence, cognitive flexibility
3. **_____ psychologist is generally interested in how the behavior of an individual is influenced by other people.** (NCL 2020)
 - a. Social
 - b. Gestalt
 - c. Behavioral
 - d. Humanistic
4. **According to E. Sapir, what is language primarily used for?** (AIIMS Bhubaneswar 2023)
 - a. Expressing emotions only
 - b. Instinctive communication
 - c. Communicating ideas, emotions, and desires
 - d. Animal communication
5. **In which type of classical conditioning therapy is noxious stimulation used?** (DMER 2023)
 - a. Behavior therapy
 - b. Aversion therapy
 - c. Modeling therapy
 - d. Sensitization therapy
6. **A personality characteristic that is characterized by high levels of worry, anxiety, and depressed mood is:** (CUET MPT 2023)
 - a. Psychoticism
 - b. Addictive personality
 - c. Sadism
 - d. Neuroticism
7. **_____ counseling deals with personal and social adjustment problems, which have a primary affective component.** (AIIMS Patna 2019)
 - a. Emotional
 - b. Employment
 - c. Vocational
 - d. Educational
8. **Most common psychiatric comorbidity along with obsessive compulsive disorder is:** (PGPCET 2020)
 - a. Mania
 - b. Depression
 - c. Dissociation of symptom
 - d. Conversion disorder
9. **Trial and error learning is also known as:** (AJIPT MPT 2021)
 - a. Conditional
 - b. Connectionism
 - c. Insight
 - d. None of the above
10. **Reinforcement theory of motivation was given by:** (NTA DU 2021)
 - a. Jung
 - b. Herzberg
 - c. Skinner
 - d. Maslow
11. **Which of the following is an example of stimulus motives?** (Safdarjung Hospital 2023)
 - a. Hunger
 - b. Curiosity
 - c. Thirst
 - d. Power
12. **Which of the following principles says that the patient has the right to choose for one's life and to voice that choice for as long as possible?** (AIIMS Rishikesh 2023)
 - a. Autonomy
 - b. Beneficence
 - c. Nonmaleficence
 - d. Justice
13. **What is the definition of problem or challenging behavior?** (AIIMS Bhubaneswar 2023)
 - a. Behavior that is always a result of a learning disability
 - b. Behavior that is a common response to typical situations
 - c. Behavior that is socially acceptable and well-adjusted
 - d. Behavior that is defined as causing physical safety concerns or limiting access to community facilities

Ans.

1. d
2. a
3. a
4. c
5. b
6. d
7. a
8. b
9. b
10. c
11. b
12. a
13. d

EXPLANATIONS

1. Obsessive-compulsive disorder (OCD) belongs to the category of anxiety disorders.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 814)

2. Hypnosis involves deep absorption in focused thought, dissociation from the external environment, and high suggestibility to therapeutic instructions. These elements allow altered states of awareness and make hypnosis useful in pain control and psychological therapy.

(Psychology for Physiotherapist/Thangamani/1st Ed./Pg. 165–166)

3. A social psychologist is generally interested in how the behavior of an individual is influenced by other people and social factors. Social psychology focuses on understanding how individuals' thoughts, feelings, and behaviors are shaped by the presence and actions of others in social contexts.

(Social Psychology/R.Pervez/1st Ed./Pg. 2)

4. According to Edward Sapir, language is primarily used for communicating ideas, emotions, and desires.

(The Extended Mind/RK Logan/1st Ed./Pg. 26)

5. Aversion therapy pairs an unwanted behavior with unpleasant stimuli to reduce its occurrence. It is used to treat addictions or maladaptive behaviors by creating negative associations that discourage the repeated behavior.

(Textbook of Rehabilitation/Sunder/3rd Ed./Pg. 110)

6. Neuroticism is a personality trait associated with high levels of worry, anxiety, moodiness, and emotional instability. Individuals with neuroticism may experience negative emotions more frequently and intensely than others.

(Cognition, Emotion and Psychopathology/J.Yiend/1st Ed./Pg.30)

7. Emotional counseling focuses on addressing personal and social adjustment issues that have a primary affective (emotional) component.

(Textbook of Rehabilitation/Sunder/3rd Ed./Pg. 255)

8. The most common psychiatric comorbidity alongside OCD is depression. Many individuals with OCD experience symptoms of depression, such as persistent sadness, loss of interest, and feelings of worthlessness.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 814)

9. Trial and Error learning involves learning through repeated attempts and errors to achieve a desired outcome, often in a step-by-step manner. It emphasizes the establishment of connections between actions and consequences to guide future behavior.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 398)

10. The reinforcement theory of motivation was proposed by BF Skinner. This theory emphasizes how behavior is influenced by its consequences, particularly through reinforcement (positive or negative) or punishment.

(A Primer on Organizational Behavior/JL Bowditch/7th Ed./Pg. 87)

11. Curiosity is an example of a stimulus motive. Stimulus motives are internal states of arousal or curiosity that drive behavior, often in response to environmental stimuli or novelty.

(Psychology for Physiotherapists/Thangamani/1st Ed./Pg. 39)

12. The principle that says the patient has the right to choose for one's life and to voice that choice for as long as possible is autonomy. Autonomy emphasizes respect for individual decision-making and self-determination in healthcare and ethical way.

(Physical Rehabilitation/Sullivan/6th Ed./Pg. 413)

13. Problem or challenging behavior is defined as actions that pose safety risks or restrict community access. This behavior may require intervention to address effectively, aiming to promote safety and inclusion while supporting individuals to participate fully in community.

(Problematic and Risk Behaviours in Psychosis/A.Meaden/1st Ed./Pg. 8)