Motor Learning and Skill Acquisition: Applications for physical education and sport

Multiple-Choice Questions
Chapter 1: Introduction to motor learning and skill acquisition

1. The study of the learning of skilled movements from learning related variables, such as practice and feedback, is known as which of the following?
   A. Motor Learning
   B. Motor Control
   C. Motor Development
   D. Biomechanics

2. Physical education emerged as an academic discipline at Universities, with motor learning as a core discipline area of study, during which period?
   A. Early period (1880-1940)
   B. Middle period (1940-1970)
   C. Present period (1970-)

3. The profession that provides education of and through the physical is
   A. biomechanics.
   B. motor behaviour.
   C. physical education.
   D. exercise and sport science.

4. Motor learning is a ______ discipline in physical education and exercise and sport science programs.
   A. new
   B. traditional

5. Which type of research in motor learning and skill acquisition provides for the greatest control over all the learning variables?
   A. Laboratory motor learning research
   B. Applied motor learning research
   C. Research in physical education and exercise and sport science contexts

6. What role do experts in motor learning and skill acquisition typically perform?
   A. Research
   B. Teaching
   C. Professional practice
   D. All of the above
Chapter 2: Skills in sport and physical education

1. Skills where understanding, knowing, and thinking are the main determinants of successful performance are
   A. motor skills.
   B. cognitive skills.
   C. perceptual skills.
   D. affective skills.

2. A motor skill is
   A. a voluntary goal-directed activity that we learn through practice or experience or a description of the quality of performance.
   B. a voluntary goal-directed activity that we learn through practice or experience that requires movement of the body or limbs to achieve the goal.
   C. a skill where understanding, knowing, and thinking are the main determinants of successful performance.
   D. a skill where detecting, discriminating and interpreting sensory information is imperative for successful performance.

3. Which of the following is NOT a characteristic of motor skills?
   A. Learned
   B. Voluntary
   C. Genetic
   D. Require movement

4. Fundamental Motor Skills are
   A. foundation skills learned when we are young that provide the basis for the development of specialised motor skills.
   B. advanced versions of motor skills or combinations of motor skills that we apply to a specific sport.
   C. skills where understanding, knowing, and thinking are the main determinants of successful performance.
   D. skills where detecting, discriminating and interpreting sensory information is imperative for successful performance.

5. Abilities are
   A. stable and enduring.
   B. modifiable with practice.
   C. dependent on subsets of skills.
   D. learned.

6. Which of the following would best fit the definition of an ability?
   A. Catching
   B. Kicking
   C. Throwing
   D. Balance

7. Which of the following would best fit the definition of a motor skill?
   A. Reaction time
   B. Throwing
   C. Strength
   D. Flexibility
8 Tackling in football would be best classified as which type of skill?
A Closed motor skill
B Fine motor skill
C Continuous motor skill
D Open motor skill

9 Skills involving large muscle groups and less precise movements are best classified as which type of skill?
A Gross motor skills
B Open motor skills
C Fine motor skills
D Continuous motor skill

10 Which of the following skills would be classified as a discrete motor skill?
A Cycling
B Running
C Kicking a ball
D Swimming

11 Skills where the learner must react and adapt the skill to that environment are
A discrete motor skills.
B continuous motor skills.
C closed motor skills.
D open motor skills.

12 Regulatory conditions are
A body orientation changes.
B changing performance requirements from one performance of the skill to the next.
C environmental features that influence how a learner performs a skill.
D object manipulation.

13 What does the term ‘action requirements’ describe?
A Whether body orientation changes (is there body stability or body transport)
B Whether there is object manipulation (is an object being used or held)
C Whether performance requirements change from one performance to the next (intertrial variability)
D A and B

14 Which of the following is not an essential element of games?
A The goal
B Means
C Rules
D Physical skill

15 Which of the following best characterises ‘play’?
A An activity voluntarily pursued for intrinsic rewards
B A goal directed activity that has rules, which limit the permissible means of goal achievement, prohibit more efficient means in favour of less efficient means, and which players accept to make the game possible
C A game that requires physical skill, and has a wide-following and institutional stability
D All of the above

16 All games are sports.
A True
B False

17 Secondary rules in games are
A rules that identify how we play and win a game.
B rules that we can modify without altering the essential nature of the game.
18 Which of the following is the best example of a primary rule?
   A No handling the ball in soccer
   B A tie-break in tennis
   C The size of the ball in volleyball
   D The height of the basket in basketball

19 Which of the following is the best example of a secondary rule?
   A No handling the ball in soccer
   B No throwing the ball in Australian football
   C The number of players on a hockey team
   D No tackling in basketball

20 When classifying games according to developmental level, Level 1 games are
   A easy to play games that have few and simple rules and require little or no equipment
     (familiarisation or discovery games).
   B games that involve the use of two or more motor skills or movement concepts of
     the official game (skill challenge games).
   C lead-up games to the official game (modified versions of the official game).
   D official versions of the game or sport (official rules).

21 When classifying games according to developmental level, games that involve the use
   of two or more motor skills or movement concepts of the official game (skill challenge
   games) are considered
   A level 1 games.
   B level 2 games.
   C level 3 games.
   D level 4 games.

22 Net/wall games are games where
   A opposing teams attempt to invade their opponent’s territory to score points either
     by shooting into a target or goal (focused target) or by moving the ball over a line
     (open end target).
   B players or teams aim to send an object into an opponent’s area so that the opponent
     cannot return it to a specifically defined area.
   C there is a batting team and a fielding team.
   D the aim is to get an object as close to a target as possible.

23 A key tactic or strategy of invasion games is to
   A be accurate to a target.
   B place the ball where the opponent cannot return the ball.
   C hit the ball away from the fielders to maximise time to score runs.
   D gain and maintain possession of the ball.

24 Which of the following is an example of an invasion game?
   A Cricket
   B Tennis
   C Archery
   D Hockey

25 Which of the following is an example of a striking/fielding game?
   A Cricket
   B Tennis
   C Archery
   D Hockey
26 Which of the following sports would be best classified as an interactive sport?
   A  Golf
   B  Lawn bowls
   C  Softball
   D  Rugby

27 Which of the following sports would be best classified as a coactive sport?
   A  Golf
   B  Soccer
   C  Softball
   D  Rugby

28 Sports with little or no direct interaction between team members and which require individuals to be successful in their individual skills are best classified as
   A  interactive sports.
   B  coactive sports.
   C  individual sports.
   D  team sports.

29 A serial motor skill is a skill involving
   A  clearly defined beginning and end points, usually requiring a simple movement.
   B  control of small muscles to achieve the goal.
   C  a stable or predictable environment where the performer determines when to begin the action.
   D  a series of discrete skills in a specified order.

30 In Gentile's two-dimensional classification system, the environmental context dimension has which two characteristics?
   A  Body transport and object manipulation
   B  Regulatory conditions and intertrial variability
   C  Body transport and intertrial variability
   D  Regulatory conditions and object manipulation

31 According to Gentile's two-dimensional skill classification system, the most complex skills would involve
   A  body transport, object manipulation, regulatory conditions in motion, and intertrial variability.
   B  body stability, no object manipulation, stationary regulatory conditions, and no intertrial variability.
   C  body transport, no object manipulation, regulatory conditions in motion, and no intertrial variability.
   D  body stability, object manipulation, stationary regulatory conditions, and intertrial variability.
Chapter 3: Learning and performance of motor skills

1. Learning refers to
   A. the observable behaviour of executing a skill at a specific time and in a specific situation.
   B. an internal process indicated by a change in the capability to perform a skill due to practice or experience.
   C. variables of the learner, learning environment, and performance environment that can cause temporary changes in performance.
   D. a directly measurable behaviour of an individual when they practice.

2. Which of the following describes a performance characteristic of skill learning where the skill can be modified to match the situation?
   A. Improvement
   B. Consistency
   C. Stability
   D. Adaptability

3. As a characteristic of motor skill learning, what does stability refer to?
   A. Performance gets better over time
   B. Performance of a skill is less influenced by internal or external disruptions in a performance situation as it is learned
   C. Performance is retained over time
   D. The skill can be adjusted, modified or adapted to match the situation

4. Retention tests are generally used to measure which performance characteristic of motor skill learning?
   A. Improvement
   B. Persistence
   C. Stability
   D. Adaptability

5. Which approach to measuring performance would an instructor use to determine the performance characteristic of adaptability?
   A. Performance curve
   B. Retention test
   C. Transfer test
   D. Displacement

6. A performance curve showing performance improving proportionally over time, so that every practice trial or session results in the same improvement in performance, is a
   A. linear performance curve.
   B. negatively accelerating performance curve.
   C. positively accelerating performance curve.
   D. s-shaped performance curve.

7. The most commonly seen performance curve is a
   A. linear performance curve.
   B. negatively accelerating performance curve.
   C. positively accelerating performance curve.
   D. s-shaped performance curve.
8. The power law of practice is illustrated through a
   A. linear performance curve.
   B. negatively accelerating performance curve.
   C. positively accelerating performance curve.
   D. s-shaped performance curve.

9. A performance plateau is when
   A. there is no apparent change in performance, but learning can still occur.
   B. there is slower improvement in performance early and later in practice, with larger improvements in the middle practice period.
   C. changes in performance are large during early practice, but as practice continues the rate of improvement slows.
   D. performance improves proportionally over time, so that every practice trial or session results in the same improvement in performance.

10. Which of the following is NOT a potential cause of a performance plateau?
    A. A temporary performance effect
    B. A transitional period
    C. A limitation of the performance measure
    D. A permanent learning effect

11. Which type of test is a measure of performance after a period of no practice, to assess persistence of learning?
    A. Retention test
    B. Transfer test
    C. Pre-test
    D. Post-test

12. A transfer test is
    A. a measure of performance after a period of no practice, to assess persistence of learning.
    B. a measure of performance where we vary the skill or the context in which the learner performs the skill to assess adaptability.
    C. a test conducted before practice.
    D. a test conducted immediately after practice.

13. Which type of performance measures are concerned with the result of performance?
    A. Performance outcome measures
    B. Performance process measures

14. Which is of the following is the best example of a performance outcome measure?
    A. Number of goals scored
    B. Electromyography (EMG)
    C. Rating scale of movement quality
    D. Rubric of movement quality

15. Which is of the following is the best example of a performance process measure?
    A. Distance thrown
    B. Percentage of effective passes
    C. Absolute Error (AE)
    D. Rating scale of movement quality

16. Which of the following best describes assigning a number or score to a performance?
    A. Assessment
    B. Evaluation
    C. Measurement
    D. Reliability
17 Assessment is best described as
   A collecting or gathering information to make a judgement about learning.
   B interpreting the information to make a judgement about learning.
   C assigning a number or score to a performance.
   D using a measure that is easy to set up and use.

18 Which measurement consideration relates to the degree to which the performance measure provides consistent scores?
   A Validity
   B Reliability
   C Objectivity
   D Feasibility

19 Which of the following is the least objective measure of performance?
   A A judge’s rating of a vault in gymnastics
   B The number of successful free-throws in basketball
   C The distance thrown in javelin
   D The time taken to run 800m in athletics

20 Assessment that occurs during the learning activity to provide ongoing feedback on progress towards skill learning goals is
   A formative assessment.
   B summative assessment.
   C formal assessment.
   D informal assessment.

21 Using a hockey skills test at the end of a hockey season or at the end of an instructional unit on hockey is an example of
   A formative assessment.
   B summative assessment.
   C authentic assessment.
   D an assessment rubric.

22 Which of the following involves the use of standardised and controlled measures in isolation from the game or sport?
   A Formal assessment
   B Informal assessment
   C Authentic assessment

23 Which of the following is the best example of formal assessment?
   A Performing a standardised skill test from a sport (such as a shooting test in basketball)
   B Observing learners passing the netball in a game and remembering the level of passing performance
   C Using a checklist to assess skill performance in a game
   D Using a rating scale to assess skill performance in a game

24 Using a checklist to assess skill performance in a game is best classified as
   A formative assessment.
   B informal assessment.
   C authentic assessment.
   D formal assessment.

25 Which form of assessment tends to be less objective?
   A Formal assessment
   B Informal assessment
26 A rubric is
   A  a record of whether certain dimensions, characteristics or behaviours are present or not by checking it off a list.
   B  a measure using descriptors of the levels to which the characteristic is present or the quality of that characteristic.
   C  a matrix that provides descriptors of the performance characteristic.
   D  a standardised test of movement outcome.

27 The five general performance characteristics of skill learning are
   A  improvement, decision-making, persistence, error-control, and adaptability.
   B  consistency, decision-making, error-control, stability, and adaptability.
   C  improvement, consistency, decision-making, persistence, and adaptability.
   D  improvement, consistency, stability, persistence, and adaptability.

28 The performance curve that indicates a large amount of improvement early in practice and smaller amounts of improvement later, representing the classic power function curve of learning is the
   A  linear curve.
   B  negatively accelerated curve.
   C  positively accelerated curve.
   D  S-shaped curve.

29 Persistence of learning can be assessed by which of the following?
   A  Transfer tests
   B  Retention tests
   C  Coordination dynamics
   D  None of the above

30 Kinematic measures include which of the following?
   A  Acceleration
   B  Displacement
   C  Velocity
   D  All of the above

31 Constant error (CE) provides information about
   A  bias of performance.
   B  consistency of performance.
   C  acceleration.
Chapter 4: Changes in learning of motor skills

1. The critical activity in the associative stage of learning is to
   A. refine the motor skill and associate specific environmental cues with specific movements.
   B. develop an understanding of the task.
   C. develop a basic movement pattern.
   D. make small adjustments to the skill to improve performance.

2. Performance changes tend to be largest in which stage of learning?
   A. Cognitive
   B. Associative
   C. Autonomous
   D. Gross

3. Diversification of the movement pattern is important for
   A. closed skills.
   B. open skills.
   C. continuous skills.
   D. gross skills.

4. In the initial stage of Gentile’s stages of learning model, the goal of the learner is to
   A. get the idea of the movement.
   B. diversify the movement pattern.
   C. fixate the movement pattern.
   D. automate the movement.

5. Environmental conditions that do not influence the movement goal, such as the sound of the crowd or other people watching, are
   A. non-regulatory conditions.
   B. regulatory conditions.

6. For a basketball free-throw, the height of the basket, the distance of the shot, and the size of the ball are
   A. non-regulatory conditions.
   B. regulatory conditions.

7. Refining the movement pattern so that it becomes consistent and efficient is known as which of the following?
   A. Diversification
   B. Fixation

8. According to dynamic systems models of learning, in learning a football handpass the learner would freeze the degrees of freedom
   A. early in learning.
   B. later in learning.
   C. after they have developed the basic movement pattern.
   D. in cold conditions.

9. Releasing of the degrees of freedom occurs as the learner gets
   A. worried about the movement.
   B. distracted by the movement.
   C. worse at the movement.
   D. more skilled at the movement.
10 The independent variables to be controlled in a movement situation are
   A  the degrees of freedom.
   B  the autonomy of movement.
   C  the associates of freedom.
   D  the scales of movement.

11 Which of the following is the correct order of stages a learner progresses through in the
dynamic systems model?
   A  Releasing, freezing, and exploiting the degrees of freedom
   B  Exploiting, freezing, and releasing the degrees of freedom
   C  Freezing, exploiting, and releasing the degrees of freedom
   D  Freezing, releasing, and exploiting the degrees of freedom

12 Which of the following is NOT a common change that occurs during skill acquisition?
   A  More attention is focused on movement production
   B  The number of muscles used decreases
   C  Less energy is used in producing a movement
   D  Learners become better at detecting and correcting their errors

13 Which of the following is NOT a common change that occurs during skill acquisition?
   A  Less attention is focused on movement production
   B  The number of muscles used decreases
   C  The timing pattern of muscle activation improves
   D  More energy is used in producing a movement

14 Which model of sport expertise suggests that early sampling of a range of sports is
beneficial for prolonged participation in sport?
   A  Deliberate practice model
   B  Developmental model of sport participation (DMSP)

15 In which sport would early specialisation appear to be most critical for development of
elite performance?
   A  Soccer
   B  Netball
   C  Hockey
   D  Figure-skating

16 In the developmental model of sport participation (DMSP), which phase of sport develop-
ment is characterised by exposure to a variety of sports with an emphasis on fun and
excitement?
   A  Sampling
   B  Specialisation
   C  Investment
   D  Recreation

17 The degrees of freedom problem refers to the problem of
   A  stopping a movement before it is initiated so that an effective response can be made.
   B  controlling all the independent variables of the system to produce a movement.
   C  recruiting small motor units.
   D  creating greater displacement of the limb in relation to velocity of the movement
      pattern.

18 Freezing the degrees of freedom refers to a common strategy for
   A  performers in the associative stage.
   B  performers in the autonomous stage.
   C  experts, with the expert holding some joints rigid while performing the skill.
   D  beginners, with the beginner holding some joints rigid while performing the skill.
19 The deliberate practice model suggests that expertise in all fields is the result of intense practice for a minimum of ______________ hours.
   A 100  
   B 1,000  
   C 10,000  
   D 1,000,000

20 In Gentile’s two stage model of learning, the learner’s goal in the second stage for learning closed skills, in which learners refine movement patterns so that they can produce them consistently and efficiently from trial to trial, is known as which of the following?
   A Association  
   B Autonomy  
   C Fixation  
   D Diversification

21 Within Fitts and Posner’s cognitive stage of learning the key aim is to
   A organise a more efficient movement pattern.  
   B make the actions automatic.  
   C understand the skill.
Chapter 5: Neuromuscular mechanisms

1. The central nervous system (CNS) consists of the
   A nerves that connect the spinal cord with other parts of the body.
   B brain and spinal cord.
   C cerebellum and thalamus.
   D nerves of the sensory system.

2. Dendrites are part of a neuron that are important in
   A receiving information.
   B sending information.
   C maintaining homeostasis.

3. Which part of the neuron contains the nucleus and works to maintain homeostasis of
   the neuron?
   A Axon
   B Dendrites
   C Soma (or cell body)
   D Interneuron

4. Which neurons send information from sensory receptors to the central nervous system
   (CNS)?
   A Sensory neurons
   B Motor neurons

5. Interneurons send information ____________ the central nervous system (CNS).
   A to
   B away from
   C within

6. Alpha motor neurons connect with
   A golgi tendon organs.
   B muscle spindles.
   C sensory receptors.
   D skeletal muscle.

7. Which neurons work as connections between our sensory and motor systems?
   A Motor neurons
   B Sensory neurons
   C Interneurons
   D Gamma motor neurons

8. What is the resting state of the neuron called?
   A Polarisation
   B Depolarisation
   C Action potential
   D Neural transmission
9. The absolute refractory period occurs after an action potential and is a period when
   A. we cannot produce another action potential, no matter how strong the stimulus is.
   B. the stimulus must be stronger than normal levels to generate an action potential.

10. A neuron can partially fire an action potential to indicate different stimulus intensities.
    A. True
    B. False

11. To indicate a stronger stimulus,
    A. the neuron can fire more intensely.
    B. the neuron can fire at a higher frequency (temporal summation).
    C. more neurons can fire (spatial summation).
    D. Both answers B and C apply.

12. The neuron firing at a higher frequency to indicate a stronger stimulus is known as
    A. temporal summation.
    B. spatial summation.
    C. all-or-none activation.
    D. synaptic transmission.

13. The conduction speed of axons is determined by which of the following?
    A. The cross-sectional diameter of the axons
    B. The myelination of the axons
    C. The glial cells
    D. A and B

14. The junction between two neurons is known as which of the following?
    A. Synapse
    B. Neuromuscular junction
    C. Myelin
    D. Potassium pump

15. Which of the following is a fatty material that helps to increase the conduction speed
    of the neuron?
    A. An ion
    B. Myelin
    C. Potassium

16. Which of the following is the largest section of the brain consisting of two cerebral
    hemispheres?
    A. Cerebellum
    B. Cerebrum
    C. Basal ganglia
    D. Thalamus

17. The wrinkled, grey surface layer of the cerebrum responsible for the levels of processing
    is known as which of the following?
    A. Cerebral cortex
    B. Cerebellum
    C. Thalamus
    D. Pons

18. Which lobe of the brain contains cortex areas that are vital for perception of sensory
    information?
    A. Frontal lobe
    B. Parietal lobe
    C. Occipital lobe
    D. Temporal lobe
19. The occipital lobe of the cortex contains
   A. areas that are important for voluntary movement control.
   B. areas that are vital for perception of sensory information.
   C. areas that are critical for perception of visual information.
   D. areas that are significant in memory.

20. Which lobe of the brain is vital in the control of voluntary movement?
   A. Frontal lobe
   B. Parietal lobe
   C. Occipital lobe
   D. Temporal lobe

21. Association areas are important in
   A. executing motor commands.
   B. putting together information from different cortical areas.
   C. scaling parameters for movement.
   D. attention and mood.

22. The area of the cerebral cortex that receives information from the sensory receptors is the
   A. primary somatosensory area.
   B. primary motor cortex (M1).
   C. premotor area.
   D. supplemental motor area.

23. The primary motor cortex (M1) is important in
   A. movement initiation and execution.
   B. advance planning of movement.
   C. preparation of movement.

24. Which cortical structure sends off the 'commands' for movement?
   A. Premotor area
   B. Supplemental motor area
   C. Primary motor cortex (M1)
   D. Basal Ganglia

25. Where do the sensory and motor pathways cross and merge?
   A. At the cerebellum
   B. At the reticular formation
   C. At the medulla
   D. At the primary motor cortex (M1)

26. A cortical area involved in planning movement and organising the coordination of movements is the
   A. basal ganglia.
   B. premotor area (PMA).
   C. brainstem.
   D. pons.

27. Parkinson’s disease is a disorder of which brain structure?
   A. Basal ganglia
   B. Cerebellum
   C. Primary Motor Cortex (M1)
   D. Supplemental Motor Area (SMA)

28. The cerebellum is important in
   A. relaying information from the sensory system.
   B. advance planning of movement.
   C. scaling parameters for movement.
   D. error detection and correction.
29 Which CNS structure is best described as a ‘relay station’ of sensory information?
   A Thalamus
   B Cerebellum
   C Basal ganglia
   D Pons

30 The spinal cord is a structure of the central nervous system involved in which of the following?
   A Transmission of information
   B Subconscious control of movement
   C Moment-to-moment control
   D All of the above

31 The motor pathway involved in reflexes and postural control is the
   A corticospinal tract (or pyramidal tract).
   B brainstem system (or extrapyramidal tract).
   C spinothalamic tract.
   D dorsal column system.

32 A reflex that synapses with only one interneuron is a
   A monosynaptic reflex.
   B polysynaptic reflex.

33 Which type of reflex is faster?
   A Monosynaptic reflex
   B Polysynaptic reflex

34 The effects of spinal cord injury are determined by which of the following?
   A The extent of the injury
   B The location of the injury
   C A and B

35 Greater impairment in function occurs with spinal cord injuries that are in
   A Higher areas of the spinal cord (e.g. cervical areas).
   B Lower areas of the spinal cord (e.g. lumbar areas).

36 Small motor units facilitate
   A fine motor control.
   B gross motor control.

37 The size principle of motor unit recruitment specifies that
   A small motor units are recruited first.
   B large motor units are recruited first.

38 Which type of muscle fibres produce larger amounts of force?
   A Fast-twitch
   B Slow-twitch

39 Which types of muscle fibres are more resistant to fatigue?
   A Fast-twitch
   B Slow-twitch

40 Rate coding is the
   A frequency of firing of motor units.
   B size of motor units.
   C shape of motor units.
   D type of motor units.
41. The idea that an action potential has a threshold for firing, so that it is either triggered or not, is known as
   A. the all-or-none law.
   B. the refractory period.
   C. frequency coding.
   D. subthreshold firing.

42. The ____________ is a period when after firing the axon potential can produce a second action potential, but the stimulus must be stronger than the usual stimulus threshold.
   A. frequency coding
   B. the all-or-none period
   C. absolute refractory period
   D. relative refractory period

43. Axons with a ____________ diameter have a faster transmission speed.
   A. larger
   B. smaller

44. The neuromuscular junction is the connection between
   A. two nerves.
   B. the motor neuron and skeletal muscle.
   C. the nerve and the brain.
   D. the nerve and the CNS.

45. A motor unit consists of
   A. a motor neuron and the muscle fibres it innervates.
   B. a sensory neuron and a motor neuron.
   C. a motor neuron and an interneuron.
   D. a motor neuron.
Chapter 6: Senses influencing performance and motor learning

1. Sensory receptors that respond strongly to a stimulus initially and then reduce the response after a short period is known as
   A. sensory adaptation.
   B. temporal summation.
   C. adequate stimulation.
   D. spatial summation.

2. The sensory stimulus needing to be sufficient to trigger a response of the sensory neuron is known as
   A. adequate stimulation.
   B. intensity coding.
   C. temporal summation.
   D. spatial summation.

3. Converting a stimulus in the form of energy (e.g. mechanical, light, or sound) into electrical energy, which the nervous system can transmit, is known as
   A. adequate stimulation.
   B. temporal summation.
   C. sensory adaptation.
   D. transduction.

4. Sensory receptors located in the skin that provide information about pain, temperature, and touch-pressure are called
   A. cutaneous receptors.
   B. muscle spindles.
   C. photoreceptors.
   D. proprioceptors.

5. Which of the following areas of the body would have the greatest density of cutaneous receptors?
   A. Arm
   B. Leg
   C. Trunk
   D. Finger

6. Areas of the body with greatest concentration of cutaneous receptors are those areas most often involved in control and performance of
   A. fine motor skills
   B. gross motor skills

7. Proprioceptors within skeletal muscles that detect changes in muscle length (stretch) and velocity are
   A. muscle spindles.
   B. golgi-tendon organs (GTOs).
   C. joint receptors.
   D. cutaneous receptors.

8. Golgi tendon organs (GTOs) detect changes in
   A. force and rotation and joint angle.
   B. muscle tension or force.
   C. muscle length.
9. Proprioceptors that detect changes in force and rotation at the joint and changes in joint angle are
   A. muscle spindles.
   B. golgi-tendon organs (GTOs).
   C. joint receptors.
   D. cutaneous receptors.

10. The sensory receptors in the muscle spindle wrap around the
    A. intramural muscle fibres.
    B. extrafusal muscle fibres.
    C. ventral horn.
    D. dorsal horn.

11. The ascending sensory pathway that transmits pain, temperature, crude touch sensations, and deep pressure information is the
    A. spinothalamic tract.
    B. dorsal column system.
    C. corticospinal tract (or pyramidal tract).
    D. brainstem system (or extrapyramidal tract).

12. The dorsal column system transmits
    A. pain, temperature, crude touch sensations, and deep pressure information.
    B. proprioception, touch, and pressure information.
    C. fine motor control information to the muscles.
    D. postural control information to the muscles.

13. The vestibular system is important in
    A. equilibrium and balance.
    B. touch.
    C. detecting changes in muscle length.
    D. detecting changes in muscle tension.

14. The parts of the vestibular system that monitor angular accelerations of the head are the
    A. semicircular canals.
    B. otolith organs.

15. The tendency for visual information to be relied upon more than information from our other sensory systems is known as
    A. central vision.
    B. visual capture.
    C. eye dominance.
    D. visual dominance.

16. The area at the back of the eye that contains the receptors (rods and cones) for vision is the
    A. optic disc.
    B. cornea.
    C. retina.
    D. pupil.

17. The central opening of the iris that can increase or decrease in diameter to let more or less light into the eye is called which of the following?
    A. Pupil
    B. Cornea
    C. Retina
    D. Lens
18 The fovea is the
   A transparent surface of the eye that helps refract light.
   B central opening of the iris.
   C convex shaped, clear transparent structure that sits behind the iris.
   D centre of the retina.

19 The neural component of the eye where light is transduced into a neural response is called which of the following?
   A Cornea
   B Sclera
   C Retina
   D Optic chiasm

20 Which photoreceptors of the eye are involved in night vision and black and white vision?
   A Cones
   B Rods
   C Sclera
   D Photocorns

21 Which photoreceptors are located primarily in the peripheral retina?
   A Rods
   B Cones

22 Which of the following is NOT a characteristic of ambient vision?
   A Dim lighting does not seriously degrade it
   B It takes in all the visual field
   C Largely conscious processes control it
   D All of the above

23 What is the cause of the 'blind spot'?
   A The lens
   B The pupil
   C The iris
   D The optic disk

24 The eye movement used to fixate on objects at different distances is known as which of the following?
   A Smooth pursuit
   B Saccades
   C Vergence
   D Fixation

25 Smooth pursuit is an eye movement used to
   A track objects.
   B move the point of gaze quickly from one point to another.
   C fixate on objects at different distances.
   D stop (fixate) on a specific object or event.

26 Which visual system do we use to identify objects in the centre of the visual field (what is it)?
   A Focal
   B Ambient

27 Which visual system do we use to locate objects in space (where is it)?
   A Focal
   B Ambient
28 When playing soccer, focusing on the ball would use the (i) ________ visual system, whereas being aware of other players around you would use the (ii) ________ visual system.
A  (i) focal; (ii) ambient
B  (i) ambient; (ii) focal
C  (i) fixation; (ii) smooth
D  (i) smooth; (ii) fixation

29 Eye movement recording provides a measure of (i) ________ vision use but does not provide information on (ii) ________ vision use.
A  (i) focal; (ii) ambient
B  (i) ambient; (ii) focal
C  (i) fixation; (ii) smooth
D  (i) smooth; (ii) fixation

30 To occlude vision of specific objects (such as the ball, or opponent’s hips, or opponent’s foot position) is an example of
A  eye movement recording.
B  temporal occlusion.
C  event occlusion.

31 In temporal occlusion techniques for studying visual attention, A  vision is occluded at specific time points.
B  vision of specific events is occluded.
C  point of gaze is measured by measuring movement of the eyes.

32 Keeping your head still in striking/hitting movements (e.g. golf, tennis, cricket, baseball) is vital for high-level performance because very small changes in head position A  can cause unconscious postural adjustments, which could change the movement produced.
B  can cause conscious postural adjustments, which could change the movement produced.

33 To successfully catch a ball, which of the following does the learner need to do before the ball makes contact with the hands?
A  Position the arm and hand relative to the ball
B  Shape the hand to catch the ball
C  Begin to close the fingers to grasp the ball
D  All of the above

34 Which visual training approach is more likely to develop performance in sport?
A  Sport-specific visual training
B  General visual training

35 Which visual training approach aims to develop functions of vision such as visual acuity, depth perception, accommodation, contrast sensitivity, and colour perception?
A  Sport-specific visual training
B  General visual training
Chapter 7: Cognitive approaches to motor control and motor learning

1. The close similarity of performance over a series of performances is called
   A. motor equivalence.
   B. uniqueness.
   C. stability and consistency.
   D. modifiability.

2. Tasks that can be completed using different movements (i.e. using different muscles and joints) is called
   A. motor equivalence.
   B. uniqueness.
   C. modifiability.
   D. serial order.

3. Uniqueness of movement is when
   A. tasks can be completed using different movements (i.e. using different muscles and joints)
   B. movements are not repeated in exactly the same way, so that movements are not identical
   C. there is a close similarity of performance over a series of performances
   D. movement can be altered during performance to match the current environmental demands

4. The degrees of freedom problem relates to
   A. the control and coordination of all the independent variables in performing a motor skill.
   B. movements not being repeated in exactly the same way, so that movements are not identical.
   C. the close similarity of performance over a series of performances.
   D. movements being altered during performance to match the current environmental demands.

5. An open-loop control system and a closed-loop control system can be distinguished by which of the following?
   A. Use of feedback
   B. Movement commands issued by the control centre
   C. Parameters
   D. A and B

6. In which type of control do the initial movement instructions contain all the necessary information to carry out the action as intended, so that feedback is not used during movement execution?
   A. Open-loop control
   B. Closed-loop control

7. In which type of control do learners use feedback during the movement to detect and correct errors to carry out an action as they planned?
   A. Open-loop control
   B. Closed-loop control

8. What is the main advantage of closed-loop control?
   A. It makes movement more accurate
   B. It makes movement faster
9 What is the main disadvantage of open-loop control?
A It makes movement accurate
B It allows modifications to movement
C It makes movement faster
D It makes movement slower

10 The study by Slater-Hammel (1960) where participants were unable to stop movement once it had been initiated, suggested that one limitation of closed-loop systems is that they
A can't explain performance of skills that are very brief in duration.
B can't explain performance of skills that are very long in duration.
C make control very quick.
D have no effect on motor control.

11 The speed-accuracy trade-off occurs because when we try to move faster we use (i) ________, but if we want to be more accurate we need to use feedback to make corrections using (ii) __________, which makes movement slower.
A (i) open-loop control; (ii) closed-loop control
B (i) closed-loop control; (ii) open-loop control
C (i) motor program control; (ii) constraints control
D (i) constraints control; (ii) motor program control

12 Fitts' Law is related to
A the number of choices in reaction time.
B variability of practice.
C the speed-accuracy trade-off.
D the distribution of practice.

13 Fitts' Law stipulates that movement time is influenced by which of the following?
A Distance to move (A = amplitude)
B Target size (W = width of the target)
C Number of targets (N = number of targets)
D A and B

14 The motor program view is an example of which type of model of motor control and learning?
A Cognitive
B Dynamic systems
C Constraints-led
D Ecological

15 What type of model of motor control and learning is the motor program?
A Non-linear
B Dynamic
C Hierarchical
D Action systems

16 The storage problem is a question for motor program theories of how do we
A perform a movement or variation of a movement if we have never performed it before and don't have a specific motor program for it.
B store motor programs for all the skills and variations of skills that we perform.
C perceive affordances for action if perception and action are linked.
D store information about the rules of the game.
17. The novelty problem is a deficiency of motor program based views which suggests that learners
   A. are unable to adjust to the nonlinear changes of movement patterns.
   B. are unable to ascertain affordances for action to enable the system to self-organise.
   C. are unable to produce new movements or variations of learned movements because they have not developed a specific motor program for that movement.
   D. need a vast memory capacity to store all the motor programs.

18. Motor control theories that give prominence to central commands that are stored in memory are generally described as
   A. neural-level theories.
   B. motor program theories.
   C. dynamic pattern theories.
   D. parameter theories.

19. Schmidt’s generalised motor program (GMP) suggests that the motor program stored in memory represents which of the following?
   A. A specific movement pattern
   B. A behavioural steady state of a system that represents a preferred behavioural state
   C. A class of similar skills or skill variations
   D. A and B

20. The features of the generalised motor program (GMP) that learners can modify are the
   A. invariant features.
   B. parameters.
   C. affordances.
   D. collective variables.

21. According to the generalised motor program (GMP) which of the following can be modified or added to meet the specific demands of the situation?
   A. Order or sequence of movements
   B. Limb and muscles used
   C. Relative force
   D. All of the above

22. Invariant features of the generalised motor program (GMP) include
   A. relative time, relative force, and order or sequence of movements.
   B. overall force, overall duration, and limb and muscles used.
   C. relative time, relative force, and overall duration.
   D. overall force, order or sequence of movements, and limb and muscles used.

23. Which of the following is a parameter of the generalised motor program (GMP)?
   A. Relative time
   B. Sequence of movements
   C. Overall force
   D. Relative force

24. According to the generalised motor program (GMP) theory of motor control, to throw a ball different distances, the learner modifies the _______ of movement.
   A. invariant features
   B. parameters
   C. affordances
   D. collective variables
25 A motor response schema is responsible for providing which of the following?
   A. A set of rules that learners use to modify the parameters of the generalised motor program (GMP)
   B. A set of rules that learners use to modify the invariant features of the generalised motor program (GMP)
   C. The nonlinear responses of a system in response to environmental constraint imposed on the steady state of a system
   D. B and C

26 The recall schema
   A. specifies the movement parameters.
   B. evaluates the movement.
   C. sends off the motor program.
   D. specifies the invariant features.

27 Arguments supporting generalised motor program based control include which of the following?
   A. Innate and coordinative structures exist for various acts
   B. Changes in control parameters can make dramatic changes in order parameters
   C. We prepare movements before we execute them
   D. Accurate limb control cannot occur without sensory feedback
Chapter 8: Dynamic systems approaches to motor control and motor learning

1. Self-organisation refers to an important element of dynamic systems theory that means
   A. when certain constraints are present, a specific stable state of movement emerges.
   B. an individual modifies their movement according to a set of rules.
   C. an individual deliberately modifies variables related to movement.
   D. an individual modifies variables to produce an appropriate motor program.

2. In dynamic systems theory, the boundaries that influence the movement capabilities of individuals are called which of the following?
   A. Constraints
   B. Attractors
   C. Affordances
   D. Parameters

3. Which of the following is an example of a task constraint?
   A. Height
   B. Temperature
   C. Off-side rule
   D. Motivation

4. Which of the following is an example of an organismic constraint?
   A. Spectators
   B. Number of players
   C. Strength
   D. Court size

5. Rules of the game are an example of a
   A. organismic constraint.
   B. environmental constraint.
   C. task constraint.

6. In dynamic systems theory, the order parameter
   A. specifies the movement pattern produced.
   B. varies to produce changes in the movement pattern.

7. The element in the dynamic system that varies to produce changes in the movement pattern is the
   A. order parameter.
   B. control parameter.
   C. motor program.
   D. schema.

8. Which of the following describes a change from one state to another?
   A. Transition
   B. Order parameter
   C. Control parameter

9. Changes in movement, according to dynamic systems theory, follow
   A. nonlinear progressions.
   B. linear progressions.
10 In dynamic systems theory, order parameters refer to which of the following?
A Variables that are constrained by the nervous system to act cooperatively to produce an action
B Variables that specify the overall behaviour of a system
C Variables that vary to produce changes in the movement pattern
D All of the above

11 In dynamic systems theory, the preferred (or energy efficient) ways of moving that the system is drawn towards are known as
A parameters.
B order parameters.
C control parameters.
D attractors.

12 According to dynamic systems views, the abrupt change (transition) from walking to running that occurs as the required speed of movement increases is an example of which of the following?
A A shift from one motor program to another motor program
B A change in the motor response schema responsible for providing the parameters for movement
C A linear change from one unstable state to another unstable state
D A nonlinear change from one stable state to another stable state

13 Which type of tapping pattern reflects the strongest attractor state?
A In-phase
B Anti-phase

14 Ecological models focus on
A affordances in the coupling of perception and action.
B cognitive processes involved in perception.

15 Which of the following is attributed to ecological models?
A Perception drives action
B Action drives perception
C A and B

16 The constraints-led approach to skill acquisition emphasises which of the following?
A Manipulating task constraints to encourage learners to explore movement solutions
B Developing learning environments that couple key sources of environmental information with movement (perception action-coupling)
C A and B

17 The constraints-led approach to skill acquisition emphasises the importance of
A practicing skills in isolation.
B task simplification that maintains links between perception and action.
C repetition of the skill without opponents present.

18 Which of the following instructional strategies would be most consistent with constraints-led approaches to skill acquisition?
A Game sense
B Direct (traditional) instruction
C Closed skill drills
D Explicit instruction
19 Opportunities for action provided by the task or environment in relation to capabilities are known as which of the following?
A Order variables
B Attractor states
C Affordances
D Collective variables

20 Creating learning environments in physical education and sport around challenges for learners to solve by adapting movement solutions to task constraints is characteristic of
A direct (traditional) models of skill instruction.
B constraint-led approaches to skill acquisition.
C closed skill drills.
D blocked practice.

21 The constraints-led approach to skill acquisition is most consistent with which of these views of motor control?
A Motor Program
B Cognitive
C Dynamic systems
D Generalised motor program (GMP)
Chapter 9: Movement planning and preparation

1. Which model of perception suggests that we have to store and process the information received from the environment to prepare a movement response?
   A. The information-processing model
   B. The ecological model

2. Deciding whether a pitch is a fastball or a curve ball occurs in which stage?
   A. The response programming stage
   B. The response selection stage
   C. The stimulus identification stage
   D. The varied processing stage

3. Organising the motor system to produce the movement occurs in which information-processing stage?
   A. Stimulus identification
   B. Response selection
   C. Response programming
   D. Stimulus-response

4. In which form of processing is information processed faster?
   A. Serial
   B. Parallel

5. In parallel processing, information is processed
   A. one after another.
   B. simultaneously.
   C. in sequence.
   D. separately.

6. Processing in the response-programming stage is largely
   A. non-continuous.
   B. spatial.
   C. serial.
   D. parallel.

7. In which of the 3 information-processing stages is interference between the performance of two tasks LEAST likely to occur?
   A. Varied processing
   B. Stimulus identification
   C. Response selection
   D. Response programming

8. Reaction time (RT) refers to the interval of time between which of the following?
   A. A response being initiated and a response being completed
   B. A stimulus being presented and a response being completed
   C. A stimulus being presented and a response being initiated
   D. None of the above

9. Movement time (MT) and reaction time (RT) are strongly related, so that a slow RT also means a slow MT.
   A. True
   B. False
10 A discrimination reaction time (DRT) task would require
   A one stimulus and one response.
   B more than one stimulus to respond to, and each stimulus has a specified response.
   C more than one stimulus, but only one response.
   D separating motor time and premotor time.

11 A reaction time (RT) task where there is more than one stimulus to respond to, and each
   stimulus has a specified response would be described as a
   A simple reaction time (SRT).
   B choice reaction time (CRT).
   C discrimination reaction time (DRT).
   D fractionated reaction time (FRT).

12 Which of the following are NOT true regarding factors influencing Reaction Time (RT)
   and action preparation?
   A As the number of stimulus response-choices increases, RT increases
   B As stimulus-response compatibility increases, RT decreases
   C As predictability increases, RT increases
   D As movement complexity increases, RT increases

13 Hicks' law specifies that RT increases as the
   A complexity of movement increases.
   B accuracy of movement increases.
   C length of the foreperiod increases.
   D number of stimulus–response choices increases.

14 Reaction time (RT) doubles each time you add another stimulus-response choice.
   A True
   B False

15 The increase in reaction time (RT) from 1 to 2 choices is larger than the increase in reaction
   time (RT) from 9 to 10 choices.
   A True
   B False

16 More complex movements result in
   A slower reaction times (RT).
   B faster reaction times (RT).
   C no difference in reaction time (RT).

17 Which of the following is likely to lead to the fastest reaction time (RT)?
   A An inconsistent foreperiod
   B No foreperiod
   C A consistent foreperiod
   D A very long foreperiod

18 Which tends to lead to faster reaction times (RT), a focus on the stimulus (sensory set)
   or a focus on the movement (motor set)?
   A Sensory set
   B Motor set

19 The delay in responding to the second of two closely spaced stimuli is called
   A the psychological refractory period (PRP).
   B Hick's Law.
   C Fitts' Law.
   D the Stroop Effect.
20 In the psychological refractory period (PRP), the inter-stimulus interval (ISI) refers to the
A speed of the stimuli.
B duration of the stimuli.
C strength of the stimuli.
D time between the two stimuli.

21 Research on the psychological refractory period (PRP) has suggested that for a fake in
sport to be effective requires which of the following to occur?
A The two stimuli have to be spaced far enough apart so that they are separated
B The two stimuli can’t be spaced so far apart that the person has time to react to the
second stimuli
C The two stimuli must be presented at exactly the same instant
D A and B

22 Reaction time (RT) tends to be fastest at __________ levels of arousal.
A high
B moderate
C low

23 Spatial (or event) anticipation relates to
A knowing what will happen.
B knowing when something will happen.

24 A strategy in sport that involves providing false movement cues to an opponent is
A randomisation.
B feinting.

25 Anticipating is influenced by which of the following?
A The regularity of events
B The experience level of the player
C A and B
Chapter 10: Abilities and learning styles

1. Abilities can be distinguished from skills, as abilities are (i) ____________, whereas skills are (ii) ____________.
   A. (i) developed and modified with practice; (ii) stable and enduring
   B. (i) stable and enduring; (ii) developed and modified with practice
   C. (i) performance on a task at a specific time and place; (ii) factors that underlie performance
   D. (i) factors that underlie performance; (ii) performance on a task at a specific time and place

2. Which hypothesis proposes that abilities are highly related, so instructors can view them as one singular global motor ability?
   A. General motor abilities (GMA)
   B. Specificity of motor abilities (SMA)
   C. Dynamic systems
   D. Motor program

3. The specificity of motor abilities (SMA) hypothesis suggests that
   A. there is no such thing as ability.
   B. one specific ability underlies performance of all motor skills.
   C. motor abilities are highly related to each other.
   D. there are many motor abilities that are relatively independent.

4. Research support is stronger for which of the following?
   A. The general motor abilities (GMA) hypothesis
   B. The specificity of motor abilities (SMA) hypothesis
   C. Neither, they both are well supported
   D. Neither, they both have little support

5. Which of the following is a perceptual-motor ability in the groupings of motor abilities view?
   A. Dynamic flexibility
   B. Multi-limb coordination
   C. Dynamic strength
   D. Stamina

6. In the groupings of abilities view, reaction time is grouped as a
   A. perceptual-motor ability.
   B. physical proficiency ability.

7. Which of the following is a physical proficiency ability in the groupings of motor abilities view?
   A. Speed of limb movement
   B. Control precision
   C. Manual dexterity
   D. Static strength
8. Breaking a skill down into its key components to identify the underlying abilities important in successful performance of the skill is known as
   A. transfer testing.
   B. retention testing.
   C. task analysis.
   D. grouping of abilities.

9. Early motor performance is a very good predictor of later motor performance.
   A. True
   B. False

10. The influence of age group cut-off dates for sport causing an advantage for some children over others is the
    A. specificity of motor abilities hypothesis (SMA).
    B. general motor abilities hypothesis (GMA).
    C. task analysis procedure.
    D. relative age effect.

11. The relative age effect provides an advantage for learners born ___________ in the selection year in a range of sports including baseball, cricket, handball, swimming, tennis, and volleyball
    A. early
    B. late

12. Why is it difficult to predict motor performance based on abilities?
    A. Different subsets of abilities underlie performance at different stages of learning
    B. Children mature at different rates
    C. Different performers use different subsets of abilities to solve the same movement solution
    D. All of the above

13. Practicing straight away is an effective instructional approach for
    A. visual learners.
    B. auditory learner.
    C. kinaesthetic learners.

14. Verbal learners learn best by which of the following?
    A. Watching
    B. Doing
    C. Listening

15. Providing demonstrations is an effective instructional approach for
    A. visual learners.
    B. auditory learner.
    C. kinaesthetic learners.

16. Diversers are learners who like to
    A. think and do.
    B. feel and watch.
    C. think and watch.
    D. feel and do.

17. Learners who like to think and watch are
    A. convergers.
    B. diversers.
    C. assimilators.

18. Which type of learners prefer instructors to present the big picture first before concentrating on the details?
    A. Global learners
    B. Analytical learners
Analytical learners prefer instructors to present
A the big picture first.
B details step by step, leading to the overall concept.
Chapter 11: Motivation and confidence

1. Motivation refers to which of the following?
   A. The direction of effort
   B. The intensity of effort
   C. The amount of work completed
   D. A and B

2. How much effort a learner puts into an activity is the
   A. direction of effort.
   B. intensity of effort.

3. The interactional view of motivation argues that motivation is determined by the
   A. learner.
   B. situation.
   C. learner and situation.
   D. rewards.

4. Viewing motivation as primarily a function of personal characteristics is consistent with which view of motivation?
   A. Trait-centred
   B. Situation-centred
   C. Interactional
   D. None of the above

5. Intrinsic motivation (IM) refers to engaging in an activity for
   A. its own sake.
   B. an external reason (e.g. reward – money, social, recognition).
   C. no reason.
   D. your parents.

6. Participating in an activity for a reward and not for the activity itself is characteristic of which type of motivation?
   A. Amotivation
   B. Extrinsic motivation
   C. Intrinsic motivation

7. A lack of motivation and self-determination where the learner has no desire to participate is characteristic of
   A. amotivation.
   B. extrinsic motivation.
   C. intrinsic motivation.

8. The theory of intrinsic and extrinsic motivation that proposes that extrinsic rewards add to intrinsic motivation is the
   A. additive principle.
   B. attribution theory.
   C. cognitive evaluation theory.
   D. goal orientation theory.

9. The additive principle of intrinsic and extrinsic motivation suggests which of the following?
   A. Internal and external motivations are unrelated
   B. Extrinsic rewards undermine intrinsic motivation
   C. Adding rewards causes increased motivation
   D. All of the above
10 Cognitive evaluation theory proposes that rewards can influence which of the following?
   A Perceptions of control
   B Perceptions of competence
   C A and B

11 According to cognitive evaluation theory, extrinsic rewards that _____________ will lead to increased intrinsic motivation.
   A increase feelings of competence
   B cause a shift in the perceived locus of control from internal to external
   C cause a shift in the perceived locus of control from external to internal
   D A and B

12 According to cognitive evaluation theory, if an instructor in physical education or sport provides a reward that makes the learner feel more in control of their behaviour this will lead to
   A more skilled performance.
   B less skilled performance.
   C a decrease in intrinsic motivation.
   D an increase in intrinsic motivation.

13 According to cognitive evaluation theory an extrinsic reward that increases perceived competence will cause
   A increased intrinsic motivation.
   B decreased intrinsic motivation.
   C an increase in intrinsic motivation then a decrease if it continues.
   D no change to intrinsic motivation.

14 An achievement situation is a situation in which
   A all learners do well.
   B no learners do well.
   C the learner expects that their performance will be evaluated.
   D the learner always expects to play well.

15 Attribution theory focuses on understanding how a learner’s motivation and behaviour is influenced by
   A their explanations of their successes and failures.
   B external rewards.
   C their goals for achievement and their perceptions of their ability.

16 Which of the following are basic attribution categories?
   A Locus of causality
   B Locus of control
   C Stability
   D All of the above

17 Which of the following is NOT a category of attributions?
   A Stability
   B Causality
   C Control
   D Persistence

18 Luck is an example of a ___________ attribution.
   A stable
   B unstable
   C external
   D B and C
19 Ability is an example of a ____________ attribution.
   A stable
   B unstable
   C internal
   D A and C

20 A learner who attributes difficulty in learning a skill to ____________ is likely to feel that
   they will never be good at the skill.
   A luck
   B effort
   C ability
   D the weather

21 In an ego-protecting self-serving attribution bias the learner attributes
   A all successes to internal causes.
   B all successes to external causes.
   C all failures to internal causes.
   D all failures to external causes.

22 In an ego-enhancing self-serving attribution bias the learner attributes
   A all successes to internal causes.
   B all successes to external causes.
   C all failures to internal causes.
   D all failures to external causes.

23 A learner who is always concerned with comparing ability to others and winning has
   A a task goal orientation.
   B an attributional goal orientation.
   C an ego goal orientation.
   D no goal orientation.

24 An ego goal orientation focuses on ability perceptions that are
   A self-referenced.
   B socially compared.

25 A task goal orientation focuses on ability perceptions that are
   A self-referenced.
   B socially compared.

26 The goal orientation that is more likely to lead to maladaptive achievement behaviours
   in physical education and sport is the
   A ego goal orientation.
   B task goal orientation.

27 Which of the following is NOT a stage of development of goal orientations?
   A Autonomous competence
   B Integrated
   C Social comparison
   D Perceived competence

28 Which is the first developmental stage that children progress through in developing
   conceptions of ability and effort, and therefore, their goal orientations?
   A The autonomous competence stage
   B The integrated stage
   C The social comparison stage
   D The perceived competence stage
29 In which developmental stage children progress through in developing goal orientations do they become more ego oriented and concerned with how others view them?
   A The autonomous competence stage
   B The integrated stage
   C The social comparison stage

30 Younger children have a stronger __________ orientation.
   A task
   B ego

31 A learning environment that that is perceived to reinforce social comparison, competition, and punishment for mistakes is a
   A performance climate.
   B mastery climate.

32 Which type of motivational climate is associated more with adaptive behaviours?
   A Mastery
   B Performance
   C Decision-making
   D Attributional

33 The strongest and most dependable information on which to base self-efficacy judgments comes from
   A vicarious experiences.
   B performance accomplishments.
   C emotional states.
   D verbal persuasion.

34 Vicarious experience, as one of the factors that influence self-efficacy, would refer to
   A actual success experiences.
   B a coach giving encouragement.
   C watching other people do the skill.
   D perceptions of arousal.

35 Expecting something to happen actually making it happen is an example of
   A expectancy model.
   B goal-orientation theory.
   C self-fulfilling prophecy.
   D intrinsic motivation.

36 Which of the following is most likely to enhance the motivation of learners?
   A Making all choices for learners
   B Encouraging a performance oriented motivational climate
   C Reinforcing ability
   D Providing variety in activities and instructional methods
Chapter 12: Attention and memory

1. Being ready to respond relates most to which role of attention?
   A. Alertness
   B. Limited capacity
   C. Selectivity

2. Selectivity of attention refers to
   A. being ready to respond; related to the sensitivity of attention to stimuli.
   B. the management and allocation of limitations in our ability to attend to tasks or activities.
   C. selecting some things for attention while ignoring others.

3. Attention as alertness links attention resources to
   A. level of arousal.
   B. number of tasks being performed.
   C. available attentional capacity.
   D. bottlenecks in information-processing.

4. The cue utilisation hypothesis proposes that at low levels of arousal the learner’s attention is
   A. broad.
   B. narrow.

5. The cue utilisation hypothesis proposes that at low levels of arousal the learner
   A. attends to both task relevant and task irrelevant cues.
   B. attends to relevant cues and ignores irrelevant cues.
   C. ignores task relevant cues.

6. An attention task that requires a learner to keep attention focused over extended periods, however the stimuli that the learner needs to react to occur only every now and then, is most accurately described as a
   A. dual task.
   B. reaction time (RT) task.
   C. vigilance task.
   D. extension task.

7. Vigilance refers to the
   A. maintenance of long-term attention.
   B. short-term readiness to respond.
   C. selectivity of attention.
   D. amount of attentional capacity.

8. Bottleneck theories of attention are based on
   A. dynamic systems theory.
   B. ecological models.
   C. information-processing models.

9. Central resource capacity theories of attention suggest that learners can allocate attention between different tasks.
   A. True
   B. False

10. Which common experimental procedure is used to investigate attention-limit issues?
    A. The broad-task procedure
    B. The external-task procedure
    C. The primary-task procedure
    D. The dual-task procedure
11 The mode of processing that is largely unconscious, requires extensive practice, and is very fast, is known as
   A automatic processing.
   B controlled processing.

12 Which form of processing of information is more conscious, requiring higher levels of attention?
   A Controlled processing
   B Automatic processing

13 A beginner in basketball would probably use most of their attentional resources for which of the following?
   A Planning
   B Dribbling the ball
   C Scanning the field to pass
   D A and C

14 A midfielder in soccer needs to shift her attentional focus from surveying the field for options for a pass onto the ball so that she can pass it. This shift would be from
   A broad external to broad internal.
   B broad internal to broad external.
   C broad external to narrow external.
   D narrow external to broad external.

15 A cricket batter focusing on the ball to hit it requires which type of attentional focus?
   A Broad-external
   B Narrow-external
   C Narrow-internal
   D Broad-internal

16 Which form of learning occurs when learners learn through direct instruction on how to perform the skill?
   A Implicit learning
   B Explicit learning

17 Implicit learning occurs when learners learn skill through
   A direct instruction on how to perform the skill.
   B practice tasks without direct instruction on how to complete those tasks.
   C specific verbal instruction and demonstration on the skill.
   D prescriptive feedback about errors in performance and how to correct those errors.

18 Skills that learners develop through which form of learning are more likely to breakdown under fatigue, stress, or pressure.
   A Implicit learning
   B Explicit learning

19 Which form of learning encourages learners to focus consciously on the movement?
   A Implicit learning
   B Explicit learning

20 Directing a learner’s attention to the effects of their movement relates to an
   A internal focus of attention.
   B external focus of attention.

21 Instructions directing a learner’s attention to their movement (internal focus of attention) rather than the effects of their movement (external focus of attention) hinder performance and learning.
   A True
   B False
22 Instructing a learner practicing golf pitch swings to focus attention on the club during the swing is an example of an
   A internal focus of attention.
   B external focus of attention.

23 There appear to be beneficial learning effects for skill instructions that emphasise an external focus of attention rather than an internal focus of attention.
   A True
   B False

24 Sensory memory has
   A an unlimited duration and limited capacity.
   B an unlimited duration and unlimited capacity.
   C a limited duration and unlimited capacity.
   D a limited duration and limited capacity.

25 Short-term memory (STM) has
   A an unlimited duration and limited capacity.
   B an unlimited duration and unlimited capacity.
   C a limited duration and unlimited capacity.
   D a limited duration and limited capacity.

26 With no practice or rehearsal of newly presented information, the capacity limit of short-term memory (STM) is
   A 1 to 3.
   B 3 to 5.
   C 5 to 9.
   D 7 to 10.

27 The duration of information stored in short-term memory (STM) is about
   A 5 seconds.
   B 20 to 30 seconds.
   C 1 to 5 minutes.
   D 5 to 10 minutes.

28 Long-term memory (STM) has
   A an unlimited duration and limited capacity.
   B an unlimited duration and unlimited capacity.
   C a limited duration and unlimited capacity.
   D a limited duration and limited capacity.

29 Which type of memory relates specifically to storing information about 'how to do' something?
   A Episodic memory
   B Procedural memory
   C Semantic memory
   D All of the above

30 Forgetting that occurs due to new memories interfering with old memories is generally referred to as
   A retroactive interference.
   B encoding decay.
   C trace decay.
   D proactive interference.

31 Implicit memory tests assess an individual’s ability to do which of the following?
   A Consciously remember
   B Unconsciously remember
   C Encode in memory
   D All of the above
32 An explicit memory test that requires a person to select a correct response from several alternative responses (such as in a multiple-choice test) is called a
A recall test.
B recognition test.
C retrieval test.
D encoding test.

33 The serial position effect suggests that learners have most difficulty remembering information presented
A at the end of a list of instructions.
B at the beginning of a list of instructions.
C in the middle of a list of instructions.

34 The encoding specificity principle suggests that
A test performance is related to the amount of similarity between the practice and test contexts.
B there is interference between tasks in the retention interval.
C the number of stimulus response choices influences Reaction Time (RT).
D the speed-accuracy trade-off is related to the target width and distance to move.

35 Which type of skill tends to be more resistant to forgetting once stored in long-term memory (LTM)?
A Discrete motor skills
B Serial motor skills
C Continuous motor skills
Chapter 13: Transfer of learning

1. Which type of transfer occurs between very similar skills or performance contexts?
   A. Near transfer
   B. Far transfer
   C. Bilateral transfer
   D. Asymmetric transfer

2. If the tactics of chess transferred to the tactics of soccer, we would probably consider this to be which type of transfer?
   A. Near transfer
   B. Far transfer
   C. Bilateral transfer
   D. Asymmetric transfer

3. Due to the different wrist action involved in tennis and badminton, a person who has learned the forehand in tennis before learning the forehand in badminton often experiences what kind of transfer of learning?
   A. Positive transfer
   B. Negative transfer
   C. Regenerative
   D. Generative

4. Negative transfer effects are
   A. very common and affect all stages of skill learning.
   B. very common and affect early stages of learning.
   C. not common and affect late stages of learning.
   D. not common and affect early stages of learning.

5. Transfer from one variation of a skill to another variation of the same skill or performance of that skill in a new context is known as what type of transfer?
   A. Intratask transfer
   B. Intertask transfer
   C. Bilateral transfer

6. Transfer of learning from soccer to hockey would be considered to be what type of transfer?
   A. Intratask transfer
   B. Intertask transfer
   C. Bilateral transfer

7. Transferring practicing handpassing in a drill to handpassing in a game is a form of what type of transfer?
   A. Intratask transfer
   B. Intertask transfer
   C. Bilateral transfer

8. The theory to explain positive transfer of learning effects because the components of the skills or contexts of the skills are similar, is called
   A. identical elements theory.
   B. transfer-appropriate processing view.
   C. bilateral transfer view.
   D. asymmetric transfer theory.

9. Transfer appropriate processing proposes that we expect to see better transfer if
   A. the cognitive processes, such as similar strategic, conceptual, and decision making elements, are similar.
   B. the skill elements and/or context elements are similar.
10 Transfer of learning from one limb to the other is known as what type of transfer?
   A  Near transfer
   B  Far transfer
   C  Intratask transfer
   D  Bilateral transfer

11 When there is a similar amount of transfer from either limb, so it doesn’t matter which
   limb the learner practices with first, it is called
   A  symmetric bilateral transfer.
   B  asymmetric bilateral transfer.

12 Asymmetric bilateral transfer refers to transfer in which
   A  there is a greater amount of transfer from one limb than from the other limb.
   B  the amount of transfer is similar from one limb to another, no matter which limb is
      used first.
   C  there is negative transfer from one skill situation to another.
   D  there is positive transfer from one skill situation to another.

13 In physical education and sport, when instructing a skill such as a soccer pass or volleyball
   spike, which limb should the learner generally begin practicing with?
   A  Preferred
   B  Non-preferred

14 Which theory of bilateral transfer suggests that information relating to how to do the
   skill transfers?
   A  Cognitive learning
   B  Motor program
   C  Neural adaptation

15 Motor irradiation
   A  is a barrier to bilateral transfer.
   B  is a possible mechanism for bilateral transfer to the untrained limb.
   C  is when the motor system gets tired.
   D  is when the motor system gets excited.
Topic Area 4: Applying motor learning and skill acquisition in physical education and sport

Chapter 14: Presenting skills and tasks

1. Explaining to learners how to perform the learning activity is a function of the
   A. skill presentation.
   B. task presentation.

2. When presenting skills or tasks, distractions such as the sun and equipment should be located or placed
   A. behind the instructor.
   B. away from learners so they are not looking at them.
   C. close to learners so they can access them during the presentation.
   D. with learners so that they can hold or see them.

3. When presenting skills or tasks make sure that
   A. equipment, such as balls, bats, cones, and racquets are close enough for learners to access during the presentation.
   B. the sun is behind you during the presentation.
   C. you provide lots of detailed information.
   D. the learners can all see and are close enough to hear the instructions.

4. Which of the following is LEAST appropriate when providing presentations?
   A. Make instructions accurate.
   B. Help learners understand the importance of the skill and task.
   C. Be enthusiastic.
   D. The more you explain the better.

5. Which of the following is MOST appropriate when presenting skills?
   A. Provide lots of information.
   B. Use complex terms and concepts to make sure learners can develop advanced skills.
   C. Don’t check for understanding before learners begin practicing.
   D. Keeping presentations short, sharp, and focused.

6. Which of the following is the best example of a quick check for understanding for instructors to use?
   A. ‘Does everybody understand?’
   B. ‘Do you all get it?’
   C. ‘Where should you pass the ball?’
   D. ‘Are you all clear on that?’

7. What should you make sure to do when you provide instructions to learners?
   A. That you can see all them all
   B. That they can all hear you
   C. That you are enthusiastic
   D. All of the above
8 The action effect hypothesis proposes that actions are best planned and controlled by
A focusing on the movement (internal focus).
B focusing on the intended outcome of movement (external focus).

9 The action effect hypothesis proposes that the learning and performance of a throwing
skill will be best when the learner pays attention to
A the target of the throw.
B where their arm should be.

10 Verbal cues involve
A translating an observed movement into a symbolic code stored in memory to perform
the skill.
B short statements that direct a learner’s attention to important elements of the skill
or task.
C presenting information by having learners observe someone performing the skill or
 task.
D the visual system picking up information to constrain the motor system automatically.

11 Instructors of motor skills in physical education and sport can use verbal cues appropriately
by doing which of the following?
A Making verbal cues short and action-oriented
B Using only a few verbal cues
C Repeating the same verbal cues often
D All of the above

12 Which of the following is NOT an effective use of verbal cues?
A Making verbal cues short and action-oriented
B Using lots of verbal cues
C Making verbal cues accurate and precise
D Providing verbal cues with demonstrations

13 Explicit learning is characterised by
A learning from mistakes.
B direct instruction on how to do the skill.
C providing options to explore in practice.
D questioning.

14 Demonstration is most effective when
A the skill is new to the learner.
B adjusting movement parameters.
C movement outcome rather than movement form is important.
D the skill is well-learned.

15 Demonstration is probably no more effective than other skill presentation techniques,
such as verbal instruction, for
A teaching the movement pattern of a new skill, such as the throwing technique.
B adjusting parameters of an established movement pattern, such as throwing faster
or slower.
C showing a learner a new movement pattern they don’t know, such as a gymnastics
vault.

16 Demonstration is probably most effective for
A teaching the movement pattern of a new skill.
B adjusting parameters of previously learnt movements.
C explaining where to move to in a learning task.
D explaining how fast to move.
17 Demonstration can be used to instruct which of the following?
   A Skills where movement form is important
   B Strategies and decision-making
   C Confidence to do the skill
   D All of the above

18 Demonstration tends to be more effective for instruction of which type of skill?
   A Skills where movement form is important, e.g. diving, gymnastics, and dancing
   B Skills where movement outcome is most important, e.g. kicking in football, batting in cricket, and goal-shooting in netball

19 An advantage of a learning model is that it
   A provides correct performance of the skill.
   B is high-status.
   C encourages problem solving and discovery.
   D can intimidate learners.

20 An expert model is beneficial because it
   A is easy for learners to copy.
   B encourages problem solving.
   C allows exploration of movement solutions.
   D provides a correct demonstration.

21 One proposed benefit of the use of a learning model is that it encourages the observer to
   A copy the parameters of movement.
   B perceive and use invariant movement patterns from the model.
   C engage in more problem solving and discovery.
   D imitate the model’s movement.

22 When first demonstrating a skill the
   A instructor should demonstrate the skill at least 10 times to make sure the learner understands.
   B whole skill should be demonstrated.
   C skill should be demonstrated in parts.
   D demonstrator should stand really close to the learners so that they can see specific parts of the skill.

23 When organising learners in a formation to observe the demonstration, which formation would be least effective because it can make seeing some key points and hearing verbal instructions difficult for some learners?
   A Circular formation with the instructor in the middle
   B Semicircle formation with the instructor in the front
   C A formation where the instructor is facing the learners

24 As a general rule, how long should you limit demonstrations to?
   A 1 minute
   B 5 minutes
   C 7 minutes
   D 10 minutes

25 As a general rule, how many demonstrations of the skill should you limit yourself to each time you present the skill?
   A 3
   B 5
   C 7
   D 10
26 When first presenting the skill, instructors should
   A provide a part demonstration of the skill.
   B demonstrate the whole skill.

27 When first presenting the skill, instructors should
   A demonstrate the skill in slow-motion.
   B demonstrate the skill in real-time.

28 Demonstrations should be provided more frequently
   A early in learning.
   B later in learning.

29 The theory of how observing demonstrations aids learning that suggests that the visual
   system can directly pick up information for movement is called
   A serial-position effect.
   B cognitive mediation theory.
   C dynamic view.
   D generalised movement pattern theory.

30 In cognitive mediation theory four sub-processes are involved in observational learning,
   which of the following is NOT one of these?
   A Attention
   B Retention
   C Behaviour reproduction
   D Serial position

31 Which of the following is true regarding guidance procedures?
   A It is a very effective technique for skill learning
   B It is beneficial to use it for extended periods
   C It is probably beneficial when the learner might be at risk of injury
   D It is effective because it can modify the feel of the movement

32 Which form of guidance is generally less effective for skill acquisition?
   A Assistive guidance
   B Restrictive guidance

33 Which skill presentation technique involves the instructor moving the learner through the
   skill to guide them, so the learner is relatively passive through the movement?
   A Assistive guidance
   B Restrictive guidance
   C Demonstration
   D Verbal instruction
Chapter 15: Practice schedules

1. Diminishing returns suggests that with additional practice, performance
   A. stops improving.
   B. continues to improve but at a slower rate.
   C. improves at the same rate.
   D. improves more rapidly.

2. Practice that continues beyond the amount needed to achieve a certain performance criterion is referred to as
   A. practice distribution.
   B. random practice.
   C. practice variability.
   D. overlearning.

3. Research on the amount of practice in physical education has revealed that
   A. learners only spend a small amount of time actually engaged in activities and practice related to skill learning.
   B. learners spend a large amount of time actually engaged in activities and practice related to skill learning.

4. Which form of overlearning is most effective for skill acquisition?
   A. Refresher practice
   B. Immediate overlearning
   C. They are both equally effective

5. Which type of skills probably need less overtraining?
   A. Discrete
   B. Serial
   C. Continuous

6. The spacing of practice is known as the
   A. practice variability.
   B. practice overload.
   C. practice distribution.
   D. practice specificity.

7. A practice schedule in which there are fewer practice sessions and the sessions are longer is
   A. random practice.
   B. distributed practice.
   C. massed practice.
   D. variable practice.

8. A practice schedule where practice time is spread across more sessions, so that each session is shorter is
   A. blocked practice.
   B. distributed practice.
   C. massed practice.
   D. random practice.

9. Which of these schedules of practice sessions represents the most distributed practice schedule?
   A. 2 x 4-hour sessions a week for 2 weeks
   B. 4 x 2-hour sessions a week for 2 weeks
   C. 2 x 2-hour sessions a week for 4 weeks
   D. 2 x 1-hour sessions a week for 8 weeks
10 Which of these schedules of practice sessions represents the most massed practice schedule?
   A 2 x 5-hour sessions a week for 2 weeks
   B 5 x 2-hour sessions a week for 2 weeks
   C 5 x 1-hour sessions a week for 5 weeks
   D 2 x 2-hour sessions a week for 5 weeks

11 For practice sessions, research supports that there is a learning benefit for
   A shorter and more frequent practice sessions.
   B fewer but longer practice sessions.

12 For practice sessions, which practice schedule is better for skill acquisition?
   A Four 1-hour sessions a week
   B One 4-hour session a week

13 For practice sessions, _________ is better for learning:
   A massed practice
   B distributed practice

14 As an explanation for the benefits of distributed practice sessions, memory consolidation describes that the breaks in distributed practice
   A allows time for memories to form.
   B reduces fatigue.
   C reduces boredom in each session.
   D allows learners to engage more cognitive effort in each session.

15 The cognitive effort explanation for the benefits of distributed practice sessions describes that the breaks in distributed practice
   A allows time for memories to form.
   B reduces fatigue.
   C reduces boredom in each session.
   D allows learners to engage more cognitive effort in each session.

16 Which of the following distributions of practice trials for a throwing skill represents the most massed practice schedule?
   A 1 second rest between throws
   B 5 seconds rest between throws
   C 10 seconds rest between throws
   D 30 seconds rest between throws

17 A practice schedule in which the amount of rest between practice trials is very short is known as a
   A massed practice.
   B variable practice.
   C distributed practice.
   D blocked practice.

18 For the distribution of practice trials, distributing practice trials appears to have a bigger effect on performance than learning.
   A True
   B False

19 Researchers have conducted more research on the distribution of practice trials with
   A continuous skills.
   B discrete skills.
   C open skills.
   D closed skills.
20 For discrete skills, _____________ of trials is better for learning.  
   A massed practice  
   B distributed practice  

21 For continuous skills, _____________ of trials is better for learning.  
   A massed practice  
   B distributed practice  

22 Which of the following distributions of practice trials for a soccer passing skill is likely to be most effective for skill acquisition?  
   A 1 second rest between passes  
   B 10 seconds rest between passes  
   C 30 seconds rest between passes  
   D 60 seconds rest between passes  

23 Which of the following distributions of practice trials for a continuous skill is likely to be most effective for skill acquisition?  
   A 10 seconds rest between trials  
   B 30 seconds rest between trials  
   C 1 minute rest between trials  
   D 5 minutes rest between trials  

24 Learning of which of the following skills is likely to benefit more from short rest intervals between trials rather than long rest intervals?  
   A Swimming  
   B Bicycling  
   C Hitting a golf ball  
   D Typing  

25 Which of the following would you NOT advise an instructor of motor skills to apply in practice?  
   A Maximise the amount of practice within practice sessions  
   B When possible, distribute practice sessions to maximise skill learning  
   C Use distributed practice trials for continuous skills to maximise performance and learning  
   D Use distributed practice for discrete skills to benefit learning and maximise the amount of practice
Chapter 16: Varying practice

1. Practice variability describes:
   A. the amount of time a learner spends engaged in learning activities related to the session objectives.
   B. the variety of skills, skill variations, and practice conditions and that a learner experiences during practice.
   C. continuing practice beyond the amount needed to achieve a certain performance criterion.
   D. the spacing of practice sessions or practice trials.

2. Varying practice conditions of the same skill during practice refers to which of the following?
   A. Interskill variability
   B. Intraskill variability
   C. Blocked practice
   D. Random practice

3. Practicing several variations of the same skill is
   A. variable practice.
   B. constant practice.
   C. blocked practice.
   D. random practice.

4. Practicing a netball shooting skill where the location of the shot and shooting distance keeps changing is best described as which type of practice?
   A. Constant practice
   B. Variable practice
   C. Random practice
   D. Blocked practice

5. Which type of practice activity for passing in hockey will have the highest level of practice variability?
   A. Closed passing skill drill
   B. Pairs passing skill drill
   C. Open passing skill drill
   D. Game sense activity

6. For open skills, practice should provide variability in which of the following?
   A. Regulatory conditions
   B. Non-regulatory conditions
   C. Both A and B
   D. Neither A nor B

7. Research on practice variability has shown that increased practice variability is associated with
   A. better practice performance and better retention and transfer performance.
   B. worse practice performance and worse retention and transfer performance.
   C. better practice performance, but this may be worse for retention and transfer performance.
   D. worse practice performance, but this may be better for retention and transfer performance.
8 Which theory emphasises the importance of varying practice conditions in skill learning to help the learner develop a set of rules for modifying the parameters of movement?
   A  Generalised motor program and schema
   B  Stages of learning models
   C  Dynamic systems
   D  Constraints-led perspectives

9 In making decisions on implementing practice variability, instructors should consider which of the following?
   A  The nature of the skill
   B  The environmental conditions in which the skill will be performed
   C  A and B

10 Practice of several skills where learners don’t practice the same skill in succession is called
    A  massed practice.
    B  distributed practice.
    C  blocked practice.
    D  random practice.

11 In blocked practice the learner
   A  practices several skills but does not practice the same skill in succession.
   B  practices several skills in a fixed order to minimise repetition of the same skill on the next practice trial.
   C  practices several skills but repeats the same skill over and over again before moving on to the next skill.
   D  practices several variations of the same skill.

12 Interference from practicing different skills during practice is
   A  contextual interference.
   B  proactive interference.
   C  retroactive interference.

13 The beneficial influence of varying skills through random practice is known as
   A  the contextual interference effect.
   B  Hick’s law.
   C  Fitts’ law.
   D  encoding specificity.

14 Which of the following forms of practice produces the highest level of contextual interference on skill learning?
   A  Blocked
   B  Serial
   C  Random

15 High levels of contextual interference are ________ for learning as measured by retention and transfer.
   A  good
   B  bad

16 Blocked practice schedules are more appropriate
   A  early in learning.
   B  once the learner understands the skill and develops a basic movement pattern.
   C  later in learning.
   D  for experts on the skill.

17 Random practice is an effective approach with higher-level performers.
   A  True
   B  False
18 The elaboration hypothesis as an explanation for the contextual interference effect suggests that high amounts of contextual interference
A benefits the learner because they can get a consistent movement pattern by repeating the skill.
B assists the learner to modify the invariant features of the motor program.
C encourages the learner to constantly compare and contrast the skills leading to distinctive and elaborate memory of the skills.
D causes the learner to forget the action plan developed last time they practiced the skill, so they have to reconstruct an action plan on each practice attempt.

19 The action plan reconstruction hypothesis as an explanation for the contextual interference effect suggests that high amounts of contextual interference
A encourages the learner to constantly compare and contrast the skills leading to distinctive and elaborate memory of the skills.
B causes the learner to forget the action plan developed last time they practiced the skill, so they have to reconstruct an action plan on each practice attempt.
C benefits the learner because they can get a consistent movement pattern by repeating the skill.
D assists the learner to modify the invariant features of the motor program.

20 More constant and blocked schedules can be used effectively
A in early stages of learning.
B in later stages of learning.

21 If the objective of practice is immediate performance of the skill, rather than learning of the skill, which practice schedule would be most appropriate?
A Blocked
B Random
C Variable
Chapter 17: Practice design and planning

1. Which of the following learning activities is likely to represent the highest levels of practice specificity for a passing skill in lacrosse?
   A. Modified games
   B. Isolated skill drills
   C. Closed skill drills
   D. Passing to a target on a wall

2. Increasing practice specificity will help learners perform the skill successfully in the performance context.
   A. True
   B. False

3. The challenge point framework proposes that learning environments should be which of the following?
   A. Fun
   B. Matched to the learner
   C. Easy
   D. Difficult

4. Functional task difficulty is
   A. the difficulty of the task, irrespective of the learner.
   B. the difficulty of the task in relation to the skill level of the learner.
   C. where the demands placed on the learner are too difficult.
   D. where the demands placed on the learner are too easy.

5. The difficulty of the task, irrespective of the learner, is the
   A. nominal task difficulty.
   B. functional task difficulty.

6. Learning tasks (activities/drills) that match learners’ needs by moving learners from simpler and easier tasks to more complex and difficult tasks are
   A. blocked practice.
   B. discovery learning activities.
   C. variation skills.
   D. skill progressions.

7. A refining task in skill progression is
   A. an initial task in the skill progression to introduce the skill.
   B. a task that improves the quality of skill performance.
   C. a task that challenges the learner by increasing complexity or difficulty.
   D. a task that challenges learners to apply the skills.

8. A task that challenges the learner by increasing complexity or difficulty is a(n)
   A. informing task.
   B. refining task.
   C. extending task.
   D. application task.

9. Which of the following is most likely to be an example of an application task in skill progression for a passing skill?
   A. Increase the distance of the pass in practice
   B. Instructing learners to step forward in the pass
   C. Play a modified game that requires passing with defenders present
   D. Passing practice in pairs
10 When a skill is high in complexity and low in organisation, it is recommended that the learner engage in
   A whole practice.
   B part practice.
   C no practice, you might as well just go home and watch TV.

11 When should instructors introduce whole practice for learners?
   A When the skill is high in complexity and low in organisation
   B When the skill is low in complexity and high in organisation
   C When the skill is low in complexity and low in organisation
   D Never

12 Which of the following types of skills is the best candidate for part practice?
   A Discrete
   B Serial
   C Continuous
   D Dichotomous

13 Which of the following types of skills is the best candidate for part practice?
   A A dance routine
   B Running
   C Throwing a ball
   D Hitting a ball

14 The part practice technique that involves separating the skill into parts and then adding each part in turn is known as which of the following?
   A Fractionisation
   B Segmentation
   C Simplification
   D Mental practice

15 Using a larger ball to learn a skill would be a form of part practice known as
   A fractionisation.
   B segmentation.
   C simplification.

16 Instructors can reduce the difficulty of skills that use implements, such as tennis racquets, cricket bats, baseball bats, and badminton racquets, by making the implements
   A shorter and lighter.
   B longer and heavier.
   C shorter and heavier.
   D longer and lighter.

17 Appropriately modifying equipment for learners can help skill acquisition by allowing learners to develop an appropriate movement pattern.
   A True
   B False

18 Using equipment that is too long or too heavy can help younger learners by constraining them to produce movement patterns that are not characteristic of the mature and efficient movement pattern.
   A True
   B False

19 Having a young basketballer shoot to a regulation height basket with a regulation ball is effective for skill acquisition because that is the height they will need to shoot at when they are older, even if the basketballer has to modify their movement to the equipment.
   A True
   B False
20 Instructors of throwing, catching, and striking skills can reduce the difficulty of the skill by
A reducing the speed of the ball.
B increasing the force of the ball.
C having a moving partner.
D having the learner move.

21 Isolating an open skill and teaching as a closed skill
A should continue throughout practice of the skill and for extended periods.
B may be beneficial initially to experience some success with the basic movement pattern of a complex open skill.
C helps develop an effective perceptual environment for learning to select appropriate movement responses.
D helps develop the skill of attuning to critical movement cues.

22 Instructors should emphasise _______ early in the learning of a skill that requires speed and accuracy.
A speed
B accuracy
C A and B

23 In teaching motor skills requiring both speed and accuracy, it is better to emphasise accuracy early in learning and then gradually increase speed.
A True
B False

24 In invasion sports, reducing the number of players usually
A increases complexity.
B decreases complexity.
C decreases motivation.
D decreases confidence.

25 In modifying games, instructors can modify ______ rules to increase or decrease complexity and develop or exaggerate the features, strategies, and skills that are the focus of learning.
A primary
B secondary

26 Newcomb (volleyball) is an example of which of the following?
A A task station activity
B A drill
C A lead-up game
D An official game

27 Which of the following groupings for skill practice is most likely to lead to the largest number of individual practice repetitions in a specified amount of time?
A Pairs practice
B Small group practice
C Large group practice
D Whole group practice

28 In effective time management, transition time between activities should be
A maximised.
B minimised.
C longer than the time spent in practice.
D spent waiting for detailed instructions.

29 Which of the following activities would increase management time and therefore reduce practice time in motor skill learning?
A Preparing and managing the learning environment
B Providing detailed instruction and presentation for all skills and tasks
C Monitoring learners during learning activities
D Avoiding waiting time
30 Managerial strategies are
   A how the instructor will organise the learners in a session.
   B how the instructor will facilitate learning in the session.

31 Strategies relating to how the instructor will organise learners at the beginning of the session, distribute and get equipment back, prepare for the next activity, transition learners between activities, get learners into groups or teams, end the session are examples of what type of strategies?
   A Managerial strategies
   B Instructional strategies

32 Which of the following could be included in a session plan?
   A Equipment
   B Learning Activities
   C Time
   D All of the above
Rehearsal of a skill, without observable movement, with the intent of learning the skill is best described as which of the following?
A Imagery
B Mental practice
C Physical practice
D A waste of time

Mental practice and imagery are beneficial for which of the following?
A The learning of motor skills
B The performance of well-learned motor skills
C A and B

Reviews of research on mental practice for motor skill acquisition have found that
A mental practice is more effective than physical practice and no practice.
B mental practice is more effective than physical practice, and physical practice is more effective than no practice.
C physical practice is more effective than mental practice, and there is no difference between mental practice and no practice.
D physical practice is more effective than mental practice, and mental practice is more effective than no practice.

Imagery of competitive strategies, such as imagery of attacking strategies for a corner in soccer is an example of which type of imagery?
A Motivational Specific (MS)
B Motivational General-Mastery (MG-M)
C Cognitive-Specific (CS)
D Cognitive General (CG)

The benefits of mental practice and imagery for skill acquisition and performance are greatest for which type of skill?
A Cognitive skills
B Motor skills
C Strength based skills
D Power-based skills

An imagery experience from inside the body is
A internal imagery.
B external imagery.
C kinaesthetic imagery.
D imagery ability.

The clarity and sharpness of imagery is a function of which of the following?
A Vividness
B Controllability
C Internal imagery
D External imagery

Which stage of learning do imagery and mental practice appear to benefit more?
A Early
B Late
9. A general principle is that learners should try to use which imagery perspective to enhance skill acquisition and performance?
   A. Internal imagery
   B. External imagery
   C. Both internal and external imagery

10. Some researchers have proposed that form based skills, such as gymnastics, rock-climbing, karate, or diving, benefit from what type of imagery?
    A. Internal imagery
    B. External imagery

11. Which type of explanation describes how imagery works to enhance motor learning and skill acquisition when learners have developed a plan or blueprint for movement?
    A. Neuromuscular explanation
    B. Cognitive explanation
    C. Functional equivalence and neurophysiological explanation
    D. Contextual explanation

12. Research that has recorded muscular activity during imagery supports which explanation of imagery?
    A. Neuromuscular explanation
    B. Cognitive explanation
    C. Functional equivalence and neurophysiological explanation
    D. Contextual explanation

13. Research finding that central nervous system (CNS) structures such as the supplemental motor area (SMA), premotor area (PMA), cerebellum, and basal ganglia (BG) are active during imagery provides greatest support for which theory of imagery?
    A. Neuromuscular explanation
    B. Cognitive explanation
    C. Functional equivalence and neurophysiological explanation
    D. Contextual explanation

14. Performers use observational learning in sport for which of the following?
    A. Acquiring motor skills
    B. Learning game strategies and routines
    C. Learning to manage psychological states such as optimal arousal, motivation, and confidence
    D. All of the above

15. What are the neurons called that activate when a learner performs a movement and when a learner observes the same movement performed by someone else?
    A. TMS neurons
    B. Mirror neurons
    C. Simulation neurons
    D. Observational neurons

16. Identifying patterns or sequences of play in sport is the perceptual cognitive skill of
    A. situational probabilities.
    B. pattern recognition.
    C. advance cue utilisation.
    D. visual search behaviour.

17. Knowing what events are likely to happen is the perceptual cognitive skill of
    A. situational probabilities.
    B. pattern recognition.
    C. advance cue utilisation.
    D. visual search behaviour.
18 The final fixation or tracking gaze that performers locate on a specific location or object is
A quiet eye.
B decision-making.
C perceptual-cognitive skills.
D pattern recognition.

19 Higher skilled performers have a _____________ quiet eye period than less skilled performers.
A shorter
B longer

20 A tennis player receiving a tennis serve of 160km/hr has approximately how long to respond?
A 100 milliseconds
B 500 milliseconds
C 1 second
D 2 seconds
Chapter 19: Feedback

1. Sensory feedback the learner receives directly from performance is known as which type of feedback?
   A. Concurrent augmented feedback
   B. Terminal augmented feedback
   C. Task-intrinsic feedback
   D. Augmented feedback

2. A coach or teacher instructing a learner to get their arm up higher is an example of what type of feedback?
   A. Task-intrinsic feedback
   B. Augmented feedback

3. Augmented feedback provided after performance is known as which of the following?
   A. Concurrent augmented feedback
   B. Terminal augmented feedback
   C. Knowledge of results (KR)
   D. Knowledge of performance (KP)

4. Feedback about the outcome of performance is known as which of the following?
   A. Concurrent augmented feedback
   B. Terminal augmented feedback
   C. Knowledge of results (KR)
   D. Knowledge of performance (KP)

5. Knowledge of performance (KP) is feedback about
   A. the result or outcome of performance.
   B. the process of skill performance that led to the outcome.
   C. winning or losing.
   D. the result of movement from internal sources.

6. What are the functions of augmented feedback (AF) in skill acquisition?
   A. Motivation
   B. Reinforcement
   C. Information
   D. All of the above

7. If a basketball player is having a bad day and makes a number of errant passes, each of which causes the coach to say ‘that’s terrible’, then the player makes a good pass and the coach remains silent, the silence is an example of
   A. positive reinforcement.
   B. negative reinforcement.
   C. punishment.
   D. a drunken coach.

8. An issue with the use of biofeedback as a form of augmented feedback is
   A. automaticity, because biofeedback encourages automatic processing of sensory information.
   B. control, because matching performance with the feedback is difficult.
   C. dependency, because biofeedback is often presented concurrently with performance.
   D. range of scores, because biofeedback is not related to performance.

9. Negative reinforcement aims to
   A. increase the likelihood of learner repeating a behaviour.
   B. decrease the likelihood of learner repeating a behaviour.
10 In most motor learning situations you should provide
   A knowledge of performance (KP) rather than knowledge of results (KR).
   B knowledge of results (KR) rather than knowledge of performance (KP).
   C general rather than specific feedback.
   D incongruent rather than congruent feedback.

11 In most motor learning situations you should provide what type of feedback?
   A Inaccurate rather than accurate feedback.
   B Knowledge of results (KR) rather than knowledge of performance (KP).
   C General rather than specific feedback.
   D Congruent rather than incongruent feedback.

12 Which form of augmented feedback do physical education teachers tend to use more
   often, knowledge of performance (KP) or knowledge of results (KR)?
   A KP
   B KR
   C Neither - they use them the same amount

13 Prescriptive feedback is more valuable for learners during which stage of learning?
   A Early
   B Late

14 What type of feedback provides suggestions on what to do or what not to do in future
   performances of the skill?
   A Congruent feedback
   B Incongruent feedback
   C Descriptive feedback
   D Prescriptive feedback

15 'The serve was 6cm too long' is an example of
   A quantitative augmented feedback.
   B prescriptive KP.
   C task-intrinsic feedback.
   D qualitative augmented feedback.

16 Which of the following is quantitative augmented feedback?
   A 'Follow through more.'
   B 'Your arm is a bit too high.'
   C 'The knee needs to bend 45 degrees.'
   D 'The throw was too low.'

17 What is congruent feedback?
   A Information that directly relates to the session objectives or what learners have been
      instructed to focus on in practice
   B Information that is not specifically related to the session objectives or what learners
      have been instructed to focus on during practice
   C When the instructor starts giving feedback on everything they know or observe about
      the skill performance

18 Instructors should only provide corrective feedback.
   A True
   B False

19 Which is more important for skill acquisition?
   A Information about errors
   B Information about correct aspects of performance
20 Which of the following is the most precise feedback?
A ‘Your arm needs to be higher’
B ‘Your arm needs to be a little higher’
C ‘Your arm needs to higher - up near your head’
D ‘Your arm needs to be 15 degrees higher’

21 Who should augmented feedback be more precise for?
A Beginners
B High-level performers
C Younger learners
D A and C

22 Which is more precise?
A Qualitative feedback
B Quantitative feedback

23 Which of the following is an example of specific feedback?
A ‘Good job’
B ‘Well done’
C ‘Nice work’
D ‘Good release angle’

24 It doesn’t matter if you give inaccurate feedback as the learner will ignore it.
A True
B False

25 Which of the following is the best example of a convergent question?
A ‘How many points are scored for a goal?’
B ‘Where would you hit the ball to try to score a run?’
C ‘What can you do to reduce your chances of getting out?’
D ‘How can you get your opponent to move out of position?’

26 A divergent question
A has one correct answer.
B has more than one correct answer.
C tests analytical responses.
D tests applied responses.

27 What do lower order questions focus on?
A Knowledge
B Analysis
C Synthesis
D Evaluation

28 What do higher order questions focus on?
A Knowledge
B Comprehension
C Understanding
D Application

29 Which of the following is the higher order question for a learner?
A ‘How many points do we get for scoring?’
B ‘Can you show me how to do a handpass?’
C ‘How can you adapt your technique to hit the ball to your right side?’
D ‘How are hockey and football similar?’
Chapter 20: Providing feedback

1. Monitoring the activity from the centre of the gym, field, pitch, or oval is best for providing feedback because all learners can be monitored.
   A. True
   B. False

2. The instructor should move around the perimeter of the space, rather than through the space to actively monitor and supervise learners during practice.
   A. True
   B. False

3. Proximity control is
   A. having ‘eyes in the back of the head’.
   B. moving in the same way around the space.
   C. being aware of what is going on at all times irrespective of what you are doing.
   D. using your location or attention to keep learners on task.

4. If an instructor provides augmented feedback on 5 trials over a series of 20 trials, what is the absolute feedback frequency?
   A. 5
   B. 10
   C. 5%
   D. 25%

5. If an instructor provides augmented feedback on 5 trials over a series of 20 trials, what is the relative feedback frequency?
   A. 5
   B. 10
   C. 5%
   D. 25%

6. To optimise skill acquisition and reinforce learning, instructors should provide feedback to the individual learner on every trial.
   A. True
   B. False

7. What is the optimal relative feedback frequency?
   A. 100%
   B. 50%
   C. 20%
   D. Not known

8. Early in learning the instructor should provide _______ augmented feedback than later in learning.
   A. more
   B. less

9. Which explanation for the benefits of reduced relative feedback frequency suggests that providing too much augmented feedback causes the learner to make too many corrections to movement?
   A. Guidance hypothesis
   B. Consistency hypothesis
   C. Information overload
10 Constant moment-to-moment corrections in performance resulting in the movement pattern not stabilising from augmented feedback being provided too frequently to a learner is consistent with which explanation for the benefits of reduced relative feedback frequency?
A Guidance hypothesis
B Consistency hypothesis
C Information overload

11 The guidance hypothesis suggests that
A not providing enough augmented feedback does not guide the learner, leading to poor learning.
B not providing enough augmented feedback causes the learner to not correct movement enough.
C providing too much augmented feedback guides the learner through the learning process, leading to poorer learning.
D providing too much augmented feedback causes the learner to make too many corrections to movement.

12 The augmented feedback frequency rates in physical education do vary from study to study but typically physical educators provide feedback at least once per ________ of instruction.
A 30 seconds
B 1 minute
C 5 minutes
D 10 minutes

13 Which type of feedback approach is the instructor using when providing an average of performance over a series of trials?
A Faded feedback
B Bandwidth feedback
C Summary feedback
D Average feedback

14 In faded feedback, the instructor provides
A a high relative feedback frequency early in learning and then gradually reduces the relative feedback frequency.
B augmented feedback when the performance error goes beyond a predetermined range or limit.
C a summary of performance after a series of practice trials.
D an average of performance over a series of trials.

15 Bandwidth feedback is when the instructor
A only provides augmented feedback when the learner asks for it.
B provides an average of performance over a series of trials.
C provides a summary of performance after a series of practice trials.
D only provides augmented feedback when the performance error goes beyond a predetermined range or limit.

16 In the context of providing augmented feedback (AF), when AF is given only when the amount of performance error is greater than an acceptable range of performance error, this is called
A performance bandwidth.
B summary feedback.
C knowledge of performance (KP).
D knowledge of results (KR).
17 Research on learner regulated feedback suggested that
   A learners requested augmented feedback on almost every trial.
   B learners never requested augmented feedback.
   C learners requested low-frequencies of feedback.
   D learners requested high-frequencies of feedback.

18 Research on learner regulated feedback suggested that learners asked for augmented feedback after what they thought was a(n) ______ trial.
   A good
   B bad
   C average

19 The feedback delay interval is the interval of time between the
   A stimulus and the response.
   B initiation of movement and completion of the response.
   C performance attempt and the provision of the augmented feedback.
   D provision of the augmented feedback and the next performance attempt.

20 The time between the provision of the augmented feedback and the next performance attempt is the
   A intertrial interval.
   B feedback delay interval.
   C post feedback interval.
   D concurrent feedback interval.

21 What does research on the feedback delay interval seem to suggest?
   A Providing augmented feedback too quickly has a negative influence on learning
   B Delaying augmented feedback decreases skill learning
   C Augmented feedback should be presented instantaneously after completion of a practice trial
   D None of the above

22 After performing a skill an instructor should provide feedback ______.
   A immediately
   B after a short delay
   C never
   D always

23 The post feedback interval will be detrimental to learning if it is
   A too long.
   B too short.

24 Which of the following is NOT recommended in applying feedback provision to instruction in physical education and sport?
   A Actively monitor and supervise learners during practice to keep them focused on the task and provide feedback to enhance learning
   B Position yourself in locations that will allow you to see learners perform the skill
   C Provide feedback to learners on every trial
   D Provide more feedback early in learning and reduce the feedback frequency later in learning

25 Which of the following is also NOT recommended in applying feedback provision to instruction in physical education and sport?
   A Give feedback and allow learners to use that feedback over a series of trials before providing more feedback
   B Be careful in using concurrent augmented feedback that reduces attention to intrinsic feedback
   C Provide feedback instantaneously
   D Give the learner time after feedback before practicing the skill again
Chapter 21: Instructional approaches

1. The instructor facilitating learning by allowing learners to make decisions and to explore movement solutions is characteristic of which instructional approach?
   A. Indirect
   B. Direct

2. The instructor controlling the learning experience is characteristic of which instructional approach?
   A. Contextual
   B. Random
   C. Direct
   D. Indirect

3. Learner-centred learning is linked with which instructional approach?
   A. Indirect
   B. Direct

4. Which of the following is most associated with indirect instructional approaches?
   A. Learners exploring movement solutions
   B. Prescriptive instruction
   C. Instructor passing on knowledge to learners
   D. Instructor lead learning

5. Implicit learning is linked with which instructional approach?
   A. Contextual
   B. Random
   C. Direct
   D. Indirect

6. Instructors should only use indirect instructional approaches.
   A. True
   B. False

7. Instructors in physical education and sport traditionally utilise which instructional approach?
   A. Direct
   B. Indirect

8. Which of the following is NOT an advantage of direct instructional approaches?
   A. Efficient for organising practice
   B. Maximising practice time
   C. Facilitating early skill acquisition
   D. Encouraging implicit learning

9. Which of the following coaching and teaching styles are linked to direct instruction?
   A. Democratic
   B. Cooperative
   C. Production
   D. Command

10. In the cooperative style, the coach
    A. makes all the decisions.
    B. takes responsibility for learning and performance.
    C. shares decisions with learners.
    D. tells learners what to do and how to do it.
11 In the autocratic coaching style
   A  the coach independently makes decisions and takes on authority by being in charge of everything.
   B  the coach allows learners to participate in decisions about learning objectives, practice activities, and performance goals.
   C  the coach shares decisions with learners.

12 Production cluster teaching styles use which approach?
   A  Direct
   B  Indirect

13 Which of the following teaching styles is an example of a reproduction style?
   A  Guided discovery
   B  Learner initiated
   C  Divergent discovery
   D  Command

14 Which of the following teaching styles is an example of a production style?
   A  Command
   B  Guided discovery
   C  Practice
   D  Self-check

15 The instructor making all the decisions for learners is characteristic of which teaching style?
   A  Guided discovery
   B  Self-teaching
   C  Command
   D  Convergent discovery

16 Which of the following instructional strategies would be considered the most indirect?
   A  Task station
   B  Peer instruction
   C  Game sense
   D  Guided discovery

17 Which instructional strategy uses learners rotating between activities?
   A  Team instruction
   B  Task station instruction
   C  Peer instruction
   D  Game sense

18 The instructor beginning a session with a clear learning objective, presenting skills through instruction and demonstration, setting up practice activities to maximise the number of supervised practice trials by learners, while providing augmented feedback to learners, and finishing with practice of the skills in a game situation is characteristic of which instructional strategy?
   A  Task station
   B  Direct (traditional)
   C  Game sense
   D  Guided discovery

19 Which instructional strategy is characterised by learners working together in teams on a learning activity towards specific goals within a specific time?
   A  Cooperative learning
   B  Task station
   C  Direct (traditional)
   D  Game sense
In guided discovery
A the instructor introduces skills, learners practice the skills, and once learnt, apply the skills in a game.
B more than one instructor delivers instruction for learners.
C learners rotate between learning stations and practice assigned skills or activities.
D the instructor encourages learners to work towards a specific solution.

Effective instructors of motor skills in physical education and sport
A use one best instructional strategy all the time.
B match the instructional strategy to the learning objectives, learner characteristics, and skill being learnt.
C use direct instruction.
D use reproduction instructional styles.
Answers to multiple-choice questions

Chapter 1:  1 A, 2 B, 3 C, 4 B, 5 A, 6 D


Chapter 13:  1 A, 2 B, 3 B, 4 A, 5 B, 6 E, 7 8 A, 9 A, 10 D, 11 B, 12 B, 13 A, 14 A, 15 B


