

**MULTIPLE CHOICE  
QUESTION PAPER**



<b>Paper number:</b> <b>SAMPLE 5</b> Please ensure that this paper number is referenced on your candidate answer sheet	<b>Time allocation:</b> 45 minutes
<b>Title:</b>  <p style="text-align: center;">Level 2 Anatomy and Physiology for Exercise and Fitness Instructors (K/616/7823) - Sample Assessment Materials</p>	
<b>Student:</b> XXXXXX Sample 5	
<b>Special Instructions:</b> <p>This asample sssessment contains 30 multiple-choice questions. You need to correctly answer 21 out of 30 questions (70%) to pass.</p> <p>Each question is worth one mark. You should select one response (a, b, c or d) for each question and record this on your answer sheet. <b>Please do not write on the question paper.</b></p> <p>Try to answer all questions and check your responses, if you have time to do so.</p>	

- Q1** The aerobic energy system is used for
- a) instantaneous bursts of activity lasting for just a few seconds
  - b) very quick bursts of high-intensity activity, lasting on average less than a minute
  - c) sustained activity lasting more than 90 s**
  - d) longer duration activities and exercise involving maximum efforts
- Q2** Which of the following is a muscle associated with the pelvic floor?
- a) Coccygeus**
  - b) Erector spinae
  - c) Gluteals
  - d) Iliopsoas
- Q3** Which of the following are part of the systemic circulatory system?
- a) The left ventricle and the aorta**
  - b) The right ventricle and the aorta
  - c) The right ventricle and the pulmonary arteries
  - d) The left ventricle and the pulmonary arteries
- Q4** Which of the following statements about the nervous system is true?
- a) Blood pressure is controlled by the somatic system
  - b) Skeletal muscle contraction is controlled by the parasympathetic nervous system
  - c) Skeletal muscle contraction is controlled by the sympathetic nervous system
  - d) Blood pressure is controlled by the autonomic system**
- Q5** Which of the following is an example of a flat bone?
- a) Clavicle
  - b) Scapula**
  - c) Ischium
  - d) Patella

- Q6** Which of the following correctly describes the process of diffusion in the lungs?
- a) Diffusion involves the movement of oxygen into the capillaries to be expelled by the lungs
  - b) Diffusion is the movement of molecules from an area of lesser concentration to an area of higher concentration
  - c) Diffusion involves the movement of carbon dioxide into the capillaries to be used by the body
  - d) Diffusion is the movement of molecules from an area of greater concentration to an area of lesser concentration**
- Q7** Which of the following statements about the structure of the heart is true?
- a) The ventricles are the smaller, inferior chambers
  - b) The ventricles are the smaller, superior chambers
  - c) The ventricles are the larger, superior chambers
  - d) The ventricles are the larger, inferior chambers**
- Q8** Which of the following describes the function of the aorta?
- a) It carries deoxygenated blood to the lungs
  - b) It carries oxygenated blood to the body**
  - c) It carries oxygenated blood to the heart
  - d) It carries deoxygenated blood to the heart
- Q9** How does fluid intake aid the digestive process?
- a) It helps to dissolve saturated fat
  - b) It assists with the removal of waste products**
  - c) It reduces chemical processes
  - d) It helps to dissolve insoluble fibre
- Q10** Which of the following statements about joint classification is true?
- a) The knee is an example of a cartilaginous joint
  - b) The ankle is an example of a freely moveable joint**
  - c) The thumb is an example of a cartilaginous joint
  - d) The lumbar spine is an example of a synovial joint

- Q11** Which of the following describes how exercise can enhance neuromuscular connections?
- a) It can reduce the speed of nerve impulses
  - b) It can increase the number of smaller motor units
  - c) It can reduce the number of smaller motor units
  - d) It can increase the speed of nerve impulses
- Q12** Which of the following statements about the structure of long bones is true?
- a) They store calcium in the medullary cavity at their centre
  - b) The main bone shaft of a long bone is the epiphysis
  - c) The two ends of the long bone are the diaphysis
  - d) They are covered by a connective tissue called the periosteum
- Q13** Which of the following describes neutral spine alignment?
- a) When the spine is in neutral there is natural lordosis of the thoracic and sacral spine
  - b) When the spine is in neutral there is natural kyphosis of the lumbar and cervical spine
  - c) When the spine is in neutral alignment there is a mild S-shaped curve
  - d) When the spine is in neutral alignment there is an emphasised S-shaped curve
- Q14** Which of the following describes a function of the skeleton?
- a) The irregular bones act as strong attachment points for muscles
  - b) The flat bones act as a levers for movement
  - c) The long bones act as a levers for movement
  - d) The short bones act as strong attachment points for muscles
- Q15** Which of the following describes how blood moves through the four chambers of the heart?
- a) Deoxygenated blood from the left atria moves to the left ventricle
  - b) Oxygenated blood from the left atria moves to the right ventricle
  - c) Deoxygenated blood from the left atria moves to the right ventricle
  - d) Oxygenated blood from the left atria moves to the left ventricle

**Q16** Which of the following describes gaseous exchange?

- a) Carbon dioxide moves from the alveoli into the pulmonary capillaries to be circulated around the body
- b) Carbon dioxide moves from the pulmonary capillaries into the alveoli to be circulated around the body
- c) Carbon dioxide moves from the alveoli into the pulmonary capillaries to be expelled
- d) Carbon dioxide moves from the pulmonary capillaries into the alveoli to be expelled

**Q17** The entire muscle is surrounded by a broad protective fibrous sheath called the

- a) sarcomere
- b) myofibril
- c) endomysium
- d) epimysium

**Q18** Which of the following describes the bronchi?

- a) They are extensions from the trachea that carry air into the lungs
- b) They are extensions from the bronchioles that carry air into the lungs
- c) They are the small air sacs at the end of the bronchioles
- d) They are the small air sacs where gaseous exchange takes place

**Q19** Which of the following correctly describes the structure of synovial joints?

- a) Muscles move joints via ligament attachment
- b) The synovial membrane prevents excessive movement
- c) Ligaments attach bone to bone
- d) The articular cartilage provides lubrication

**Q20** Which of the following describes the curves of the spine?

- a) The cervical spine has a natural outward curve
- b) The lumbar spine has a natural outward curve
- c) The thoracic spine has a natural inward curve
- d) The lumbar spine has a natural inward curve

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- Q21** Which of the following is a **superficial** muscle located posterior to the femur?
- a) Adductors
  - b) Quadriceps
  - c) Soleus
  - d) Hamstrings**
- Q22** Which of the following is a function of skeletal muscle?
- a) Assists digestion
  - b) Generates heat**
  - c) Restricts movement
  - d) Prevents stability
- Q23** Which of the following explains the importance of minerals in the process of bone growth?
- a) Magnesium is the most important mineral during the process of bone growth
  - b) Iron is the most important mineral during the process of bone growth
  - c) Calcium is the most important mineral during the process of bone growth**
  - d) Sodium is the most important mineral during the process of bone growth
- Q24** Which of the following describes a principle of muscle contraction?
- a) Muscles work in isolation to create movement
  - b) During muscle work, both the agonist and antagonist contract
  - c) During muscle contraction, it is only the origin of the muscle that moves
  - d) Muscles can only pull on bones to create movement**
- Q25** Which of the following describes pronation and supination?
- a) Pronation and supination are movements of the wrist joint
  - b) Pronation and supination are movements of the hip joint
  - c) Pronation and supination are movements of the radioulnar joint**
  - d) Pronation and supination are movements of the ankle joint
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- Q26** Which of the following should be encouraged with post-natal clients when first returning to exercise?
- a) High-impact training
  - b) Heavy resistance training
  - c) Strengthening pelvic floor muscles
  - d) Full sit-ups
- Q27** Which of the following describes motor unit recruitment?
- a) If exercise intensity is high, only larger motor units will be recruited
  - b) If exercise intensity is low, only larger motor units will be recruited
  - c) Smaller motor units are recruited first, then larger motor units
  - d) Larger motor units are recruited first, then smaller motor units
- Q28** Which of the following describes the range of motion available at a synovial joint?
- a) Flexion and extension are movements available at pivot joints
  - b) Abduction and adduction are movements available at hinge joints
  - c) Flexion and extension are movements available at hinge joints
  - d) Abduction and adduction are movements available at pivot joints
- Q29** Which of the following muscles is located laterally to the spine?
- a) Rectus abdominus
  - b) Erector spinae
  - c) Obliques
  - d) Pelvic floor
- Q30** Which of the following describes an isotonic contraction?
- a) The length of the muscle changes throughout the movement
  - b) The joint angle remains fixed and unchanged during muscle contraction
  - c) The tension in the muscle is constant throughout the movement
  - d) The speed of the movement is constant during muscle contraction

Sample Assessment

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Important! The form should be completed IN CAPITAL LETTERS using a BLACK ballpoint pen. Characters and marks used should be similar to:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0

To select a checkbox:  
 or

**YMCA**  
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# YMCA Awards Theory Paper

This candidate answer sheet must be used with a paper in the following structure:

## 30 Questions

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Site Code: SAM001/001 Assessment Date: 01/03/2018

Paper: Sample 5

Student: XXXXXX Sample 5

Q1 a  b  c  d

Q2 a  b  c  d

Q3 a  b  c  d

Q4 a  b  c  d

Q5 a  b  c  d

Q6 a  b  c  d

Q7 a  b  c  d

Q8 a  b  c  d

Q9 a  b  c  d

Q10 a  b  c  d

Q11 a  b  c  d

Q12 a  b  c  d

Q13 a  b  c  d

Q14 a  b  c  d

Q15 a  b  c  d

Q16 a  b  c  d

Q17 a  b  c  d

Q18 a  b  c  d

Q19 a  b  c  d

Q20 a  b  c  d

Q21 a  b  c  d

Q22 a  b  c  d

Q23 a  b  c  d

Q24 a  b  c  d

Q25 a  b  c  d

Q26 a  b  c  d

Q27 a  b  c  d

Q28 a  b  c  d

Q29 a  b  c  d

Q30 a  b  c  d

Invigilator Name (must be clearly printed)

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Invigilator Signature (Please keep inside box)

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Candidate Signature (Please keep inside box)

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