

**MULTIPLE CHOICE
QUESTION PAPER**



<p>Paper number APEH 3.01 Please insert this reference number in the appropriate boxes on your candidate answer sheet</p>	<p>Time allocation 60 minutes</p>
<p>Title</p> <p style="text-align: center;">MOCK PAPER Level 3 Anatomy and Physiology For Exercise and Health</p> <p style="text-align: center;">Unit Accreditation Number A/600/9051</p>	
<p>Special Instructions</p> <p>This theory paper comprises questions that are indicative to the Level 3 Anatomy and Physiology for Exercise and Health unit. It contains questions that are phrased as standard multiple choice, pictorial, fill the blanks and/or complete the sentence style questions. Answers should be recorded as either a, b, c or d.</p> <p>The questions within this paper are proportionate to the assessment criteria within the unit and relate to the following:</p> <ul style="list-style-type: none"> • Heart and circulatory system • Musculoskeletal system • Posture and core stability • Nervous system • Endocrine system • Energy systems <p>This theory paper has 40 marks. A minimum total of 28 marks overall (70%) is required in order to pass.</p> <p>Important: Please do not write on this paper.</p>	

Q1

Which of the following training methods is most effective for improving the efficiency of fat burning pathways? (1 mark)

- a. Long-duration continuous training
- b. High-intensity Fartlek training
- c. Anaerobic interval training
- d. Sprint interval training

Q2

What is the function of the semi-lunar valves? (1 mark)

- a. They prevent backflow of blood into the Atria
- b. They prevent backflow of blood into the ventricles
- c. They prevent backflow of blood into the Aorta
- d. They prevent backflow of blood into the Pulmonary artery

Q3

When performing a supine leg raise, what muscle is the prime mover? (1 mark)

- a. Rectus abdominis
- b. Vastus medialis
- c. Gluteus maximus
- d. Psoas major

Q4

Strengthening which muscles can help to correct lordosis? (1 mark)

- a. Muscles that retract the scapula
- b. Muscles that tilt the pelvis backwards
- c. Muscles that protract the scapula
- d. Muscles that tilt the pelvis forwards

Q5

What effect does atherosclerosis have on blood flow through arteries? (1 mark)

- a. It decreases resistance to blood flow, thus increasing blood pressure
- b. It increases resistance to blood flow, thus decreasing blood pressure
- c. It increases resistance to blood flow, thus increasing blood pressure
- d. It decreases resistance to blood flow, thus decreasing blood pressure

Q6

Which of the following developmental postural adaptations has the greatest impact upon normal breathing patterns? (1 mark)

- a. Kyphosis
- b. Flat back
- c. Lordosis
- d. Scoliosis

Q7

For clients with mild hypertension, what type of training can lead to a long-term reduction in resting blood pressure? (1 mark)

- a. Cardiovascular
- b. Motor skills
- c. Flexibility
- d. Muscular strength

Q8

Which of the following describes the joint between the humerus and ulna? (1 mark)

- a. A gliding joint allowing supination and pronation
- b. A hinge joint allowing flexion and extension
- c. A condyloid joint allowing abduction and adduction
- d. A pivot joint allowing internal and external rotation

Q9

Which of the following is a health risk associated with hypertension? (1 mark)

- a. Reduced bone density
- b. Osteoarthritis
- c. Coronary heart disease
- d. Type 1 diabetes

Q10

Which of the following is the deepest layer of connective tissue within skeletal muscle? (1 mark)

- a. Periosteum
- b. Perimysium
- c. Epimysium
- d. Endomysium

Q11

Which of the following describes the articulation at the pubis symphysis? (1 mark)

- a. A cartilaginous joint with limited movement
- b. A fixed joint with no movement
- c. A synovial joint with excessive movement
- d. A saddle joint with free movement

Q12

What effect will long-term strength training have on type 2 muscle fibres? (1 mark)

- a. Atrophy
- b. Hypertrophy
- c. Hyperplasia
- d. Articulation

Q13

Which of the following muscles attaches to the femur and calcaneus? (1 mark)

- a. Rectus femoris
- b. Tibialis anterior
- c. Gastrocnemius
- d. Soleus

Q14

Which of the following best describes coronary circulation? (1 mark)

- a. Arteries carrying de-oxygenated blood from the myocardium to the aorta
- b. Arteries carrying oxygenated blood from the aorta to the myocardium
- c. Veins carrying oxygenated blood from the aorta to the myocardium
- d. Veins carrying de-oxygenated blood from the myocardium to the aorta

Q15

Which exercise uses movement in the transverse plane? (1 mark)

- a. Torso rotation
- b. Knee extension
- c. Side leg raise
- d. Bicep curl

Q16

What actions are performed by the Tensor fascia latae shown in the picture? (1 mark)

- a. Adduction and external (lateral) rotation of the hip
- b. Flexion and internal (medial) rotation of the hip
- c. Extension and internal (medial) rotation of the hip
- d. Elevation and external (lateral) rotation of the hip



Q17

Which of the following happen during a cardiovascular training session? (1 mark)

- a. Stroke volume and cardiac output both decrease
- b. Stroke volume increases and cardiac output decreases
- c. Stroke volume and cardiac output both increase
- d. Stroke volume decreases and cardiac output increases

Q18

Which of the following best describes the process of motor unit recruitment? (1 mark)

- a. An efferent nerve impulse triggers some of the fibres in the motor unit to contract
- b. An afferent nerve impulse triggers all of the fibres in the motor unit to contract
- c. An afferent nerve impulse triggers some of the fibres in the motor unit to contract
- d. An efferent nerve impulse triggers all of the fibres in the motor unit to contract

Q19

Which by-product of the energy systems can cause muscle fatigue? (1 mark)

- a. Hydrogen ions
- b. Water
- c. Creatine phosphate
- d. Oxygen

Q20

Which of the following is a 'global' stabilising muscle of the spine? (1 mark)

- a. Transverse abdominis
- b. External oblique
- c. Multifidus
- d. Pelvic floor

Q21

What structure forms the junction between a neuron and a target cell? (1 mark)

- a. Synapse
- b. Cell nucleus
- c. Axon
- d. Cell body

Q22

Excessive abdominal adiposity is most associated with what type of postural deviation? (1 mark)

- a. Kyphosis
- b. Spondylosis
- c. Scoliosis
- d. Lordosis

Q23

Which of the following can cause the valsalva effect? (1 mark)

- a. Dynamic stretching
- b. Long duration aerobic training
- c. Exercising immediately after a meal
- d. Holding breath during exertion

Q24

What is arteriosclerosis? (1 mark)

- a. A disease that causes rupturing of the arteries
- b. A disease that causes softening of the arteries
- c. A disease that causes hardening of the arteries
- d. A disease that causes leaking of the arteries

Q25

What type of stretching has the lowest risk of injury? (1 mark)

- a. Dynamic
- b. Ballistic
- c. PNF
- d. Static

Q26

Increased heart rate during exercise is brought about by which of the following? (1 mark)

- a. Sympathetic action of the somatic nervous system
- b. Parasympathetic action of the autonomic nervous system
- c. Sympathetic action of the autonomic nervous system
- d. Parasympathetic action of the somatic nervous system

Q27

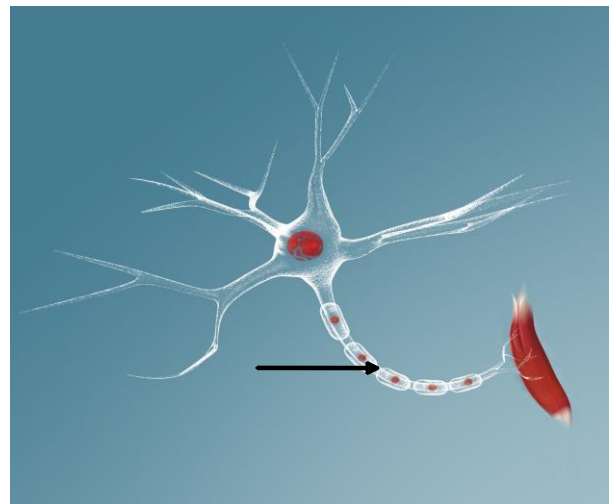
What common muscle imbalance can develop, leading to insufficient core stabilisation? (1 mark)

- a. Dominant and weaker muscles both lengthen
- b. Dominant and weaker muscles both tighten
- c. Dominant muscles lengthen and weaker muscles tighten
- d. Dominant muscles tighten and weaker muscles lengthen

Q28

In the following picture of a nerve cell, which structure is the arrow pointing to? (1 mark)

- a. Nucleus
- b. Muscle fibre
- c. Axon
- d. Dendrite



Q29

As the agonist contracts, the antagonist muscle relaxes to allow movement. What is this occurrence known as? (1 mark)

- a. Reciprocal inhibition
- b. Golgi tendon organ
- c. Passive resistance
- d. Inverse stretch reflex

Q30

During the eccentric phase of a press up, what movement occurs at the scapula? (1 mark)

- a. Protraction
- b. Elevation
- c. Depression
- d. Retraction

Q31

What is the function of muscle spindle cells? (1 mark)

- a. They respond to excessive lengthening of the muscle
- b. They respond to excessive contraction of the muscle
- c. They respond to excessive heat within the muscle
- d. They respond to excessive lactic acid within the muscle

Q32

What is the role of a motor unit? (1 mark)

- a. To contract a single muscle in response to a nerve impulse
- b. To relax a group of muscle fibres in response to a nerve impulse
- c. To contract a group of muscle fibres in response to a nerve impulse
- d. To relax a single muscle fibre in response to a nerve impulse

Q33

Where are catecholamines produced? (1 mark)

- a. Pancreas
- b. Adrenal glands
- c. Thyroid gland
- d. Ovaries

Q34

Improved neuromuscular efficiency can lead to which of the following benefits? (1 mark)

- a. Better cardiovascular fitness
- b. Reduced risk of coronary heart disease
- c. Increased bone density
- d. Faster reaction times

Q35

What term means: ‘maintaining balance or returning a system to functioning within its normal range’? (1 mark)

- a. Homeostasis
- b. Glycolysis
- c. Hypertension
- d. Metabolism

Q36

Which of the following is a neuromuscular adaptation associated with training? (1 mark)

- a. Reduced frequency of nerve impulses to motor units
- b. Increased need for conscious control of movement
- c. Better inter-muscular coordination during movement
- d. Unsynchronised recruitment of motor units

Q37

Which hormone causes the conversion of glycogen to glucose to raise blood sugar level? (1 mark)

- a. Testosterone
- b. Oestrogen
- c. Glucagon
- d. Insulin

Q38

Which of the following best describes onset of blood lactate accumulation (OBLA)? (1 mark)

- a. The intensity at which lactic acid in the muscles reduces and the aerobic system starts to contribute energy.
- b. The intensity at which the lactic acid system provides all of the energy being used.
- c. The intensity at which lactate is first produced in the muscles.
- d. The intensity at which lactate is being produced in the muscles faster than it can be cleared.

Q39

What structures within skeletal muscle tissue bring about contraction? (1 mark)

- a. Actin and myosin filaments
- b. Epimysium and perimysium
- c. Tendon and fascia
- d. Regular collagen fibres

Q40

What is the function of the aortic valve? (1 mark)

- a. It prevents backflow of blood into the right ventricle
- b. It prevents backflow of blood into the left ventricle
- c. It prevents backflow of blood into the left atrium
- d. It prevents backflow of blood into the right atrium