

**MULTIPLE CHOICE
QUESTION PAPER**

Paper number MPAPEH2.01 Please insert this reference number in the appropriate boxes on your candidate answer sheet	Time allocation 60 minutes
Title <p style="text-align: center;">Mock Paper Level 2 Anatomy and Physiology for Exercise</p> <p style="text-align: center;">Unit Reference Number H/600/9013</p>	
Special Instructions <p style="text-align: center;">This theory paper comprises questions that are indicative of the Level 2 Anatomy and Physiology for Exercise unit.</p> <p style="text-align: center;">All questions are multiple-choice. Answers should be recorded as either a, b, c or d.</p> <p style="text-align: center;">This theory paper has 40 marks (each question is worth 1 mark). A minimum of 28 marks overall (70%) are required in order to pass.</p> <p>Important: Please do not write on this paper.</p> <p>Note: You may use a calculator for this assessment.</p>	

Q1

Where is the heart located?

- a. Posterior to (behind) the sternum and just right of centre
- b. Posterior to (behind) the sternum and just left of centre
- c. Anterior to (in front of) the lungs and just left of centre
- d. Anterior to (in front of) the lungs and just right of centre

Q2

Which of the following is a function of the heart?

- a. To produce red blood cells
- b. To produce white blood cells
- c. To pump blood around the body
- d. To pump nutrients around the body

Q3

Through which major blood vessel does the left ventricle pump blood?

- a. Aorta
- b. Vena cava
- c. Pulmonary vein
- d. Pulmonary artery

Q4

The role of heart valves is to control the

- a. two-way flow of blood through the heart
- b. electrical conductivity of the heart
- c. amount of oxygen in the heart
- d. One-way flow of blood through the heart

Q5

During pulmonary circulation the

- a. left ventricle pumps de-oxygenated blood via an artery to the lungs
- b. left ventricle pumps oxygenated blood via an artery to the lungs
- c. right ventricle pumps de-oxygenated blood via an artery to the lungs
- d. right ventricle pumps oxygenated blood via an artery to the lungs

Q6

The function of the pulmonary artery is to transport blood

- a. from the lungs to the heart
- b. from the heart to the lungs
- c. from the heart to the skeletal muscles
- d. from the skeletal muscles to the heart

Q7

Diastolic blood pressure is a measure of the force that blood exerts on the walls of the

- a. arteries whilst the heart contracts
- b. veins whilst the heart contracts
- c. arteries whilst the heart relaxes
- d. veins whilst the heart relaxes

Q8

According to the National Institute for Health and Care Excellence (NICE), hypertension is considered severe if

- a. systolic blood pressure is 180 mmHg or higher or diastolic blood pressure is 110 mmHg or higher
- b. systolic blood pressure is 140 mmHg or higher or diastolic blood pressure is 90 mmHg or higher
- c. systolic blood pressure is 160 mmHg or higher or diastolic blood pressure is 100 mmHg or higher
- d. systolic blood pressure is 150 mmHg or higher or diastolic blood pressure is 110 mmHg or higher

Q9

Where are the lungs located in relation to the diaphragm?

- a. Above
- b. Below
- c. Behind
- d. In front

Q10

What is the approximate percentage of oxygen in exhaled air?

- a. 4
- b. 12
- c. 16
- d. 21

Q11

What is the name of the air sacs that are located at the end of the bronchioles in the lungs?

- a. Cilia
- b. Bronchi
- c. Trachea
- d. Alveoli

Q12

During exhalation the diaphragm

- a. relaxes and moves down
- b. relaxes and moves up
- c. contracts and moves up
- d. contracts and moves down

Q13

Which of the following describes the passage of air through the respiratory tract?

- a. Trachea, bronchioles, bronchi, pharynx, larynx, alveoli
- b. Larynx, pharynx, trachea, bronchi, bronchioles, alveoli
- c. Bronchioles, bronchi, trachea, pharynx, larynx, alveoli
- d. Pharynx, larynx, trachea, bronchi, bronchioles, alveoli

Q14

Which of the following bones protect(s) internal organs?

- a. Ribs
- b. Calcaneus
- c. Tarsals
- d. Fibula

Q15

Which of the following is part of the axial skeleton?

- a. Clavicle
- b. Cranium
- c. Ulna
- d. Patella

Q16

Which of the following is part of the appendicular skeleton?

- a. Cranium
- b. Cervical vertebra
- c. Sacrum
- d. Radius

Q17

What type of bone is the coccyx?

- a. Irregular
- b. Sesamoid
- c. Short
- d. Flat

Q18

Which part of a long bone is the diaphysis?

- a. The end
- b. The central canal
- c. The shaft
- d. The outer membrane

Q19

Bone is rebuilt by

- a. osteoclasts
- b. osteoporosis
- c. osteoblasts
- d. osteopenia

Q20

Which region of the spine has the least potential movement?

- a. Thoracic
- b. Sacral
- c. Lumbar
- d. Cervical

Q21

Which of the following is an example of a ball and socket joint?

- a. Wrist
- b. Knee
- c. Ankle
- d. Shoulder

Q22

Which of the following is an integral component of a synovial joint?

- a. Growth plate
- b. Pleural cavity
- c. Articular cartilage
- d. Bone marrow

Q23

Circumduction is available at which of the following synovial joints?

- a. Shoulder
- b. Knee
- c. Elbow
- d. Spine

Q24

Which of the following joints permits dorsi flexion and plantar flexion to occur?

- a. Spine
- b. Ankle
- c. Hip
- d. Shoulder

Q25

Which type of muscle tissue is found in the digestive system?

- a. Skeletal
- b. Smooth
- c. Cardiac
- d. Striated

Q26

What is the name given to a unit of myofibrils repeated within skeletal muscle?

- a. Sarcomere
- b. Actin
- c. Myosin head
- d. Muscle fibre

Q27

Which of the following is an anterior skeletal muscle/muscle group?

- a. Rhomboid
- b. Trapezius
- c. Triceps
- d. Iliopsoas

Q28

Which of the following is a posterior skeletal muscle/muscle group?

- a. Brachialis
- b. Pectoralis major
- c. Soleus
- d. Iliopsoas

Q29

Which of the following is part of the pelvic floor?

- a. Bladder
- b. Levator ani
- c. Uterus
- d. Gracilis

Q30

When a muscle assists another muscle to allow movement to occur it is acting as a/an

- a. synergist
- b. fixator
- c. agonist
- d. antagonist

Q31

Which of the following will result in retraction of the shoulder girdle?

- a. Eccentric contraction of pectoralis major
- b. Concentric contraction of pectoralis major
- c. Eccentric contraction of the rhomboids
- d. Concentric contraction of the rhomboids

Q32

Which of the following statements about type I muscle fibres is true?

- a. They are white in colour
- b. They are slower to fatigue than type II
- c. They have few mitochondria
- d. They utilise the anaerobic energy system

Q33

The risk of growth plate injuries is a special consideration when working with

- a. older adults (aged 50 plus)
- b. disabled people
- c. children (aged 14-16)
- d. ante/post natal women

Q34

What is adenosine triphosphate (ATP)?

- a. The precursor to lactic acid production and DOMS (delayed onset of muscle soreness)
- b. An acid that supports the break-down of carbohydrates, fats and proteins in the stomach
- c. An energy system used for endurance-based training
- d. An energy-producing/storing molecule yielded during the metabolism of carbohydrates, fats and proteins

Q35

Which of the following activities would use the ATP-PC system as its primary source of energy?

- a. 500 metre row
- b. 50 metre sprint
- c. 5 mile jog
- d. Marathon

Q36

Which nervous system is responsible for the ‘fight or flight’ response that speeds up the heart rate?

- a. Sympathetic
- b. Parasympathetic
- c. Central
- d. Motor

Q37

The role of motor neurons is to transmit nerve impulses

- a. to the brain to stimulate information processing
- b. from the senses to the central nervous system
- c. to muscles to bring about movement
- d. from pain receptors to muscles

Q38

The ‘all or none law’ states that

- a. the strength of muscle fibre contraction depends on the size of the stimulus
- b. a muscle fibre either contracts maximally or not at all
- c. for a muscle to contract, its opposing muscle must relax
- d. a strong muscle contraction is needed for coordinated movement to occur

Q39

Which of the following is a neuromuscular adaptation to high-intensity short duration exercise?

- a. Increase in type I muscle fibres and improved resistance to fatigue
- b. Frequency of nerve impulses to motor units increases
- c. Improved protein storage and availability as a fuel for exercise
- d. Reduced synchronous recruitment of motor units

Q40

Regular aerobic exercise can improve motor fitness by

- a. increasing the proportion of type II muscle fibres
- b. improving the ability to store glycogen and fat as fuels for exercise
- c. reducing synchronous recruitment of motor units
- d. enhancing the growth of new connections within the nervous system