



22126601



**SPORTS, EXERCISE AND HEALTH SCIENCE
STANDARD LEVEL
PAPER 1**

Thursday 10 May 2012 (afternoon)

45 minutes

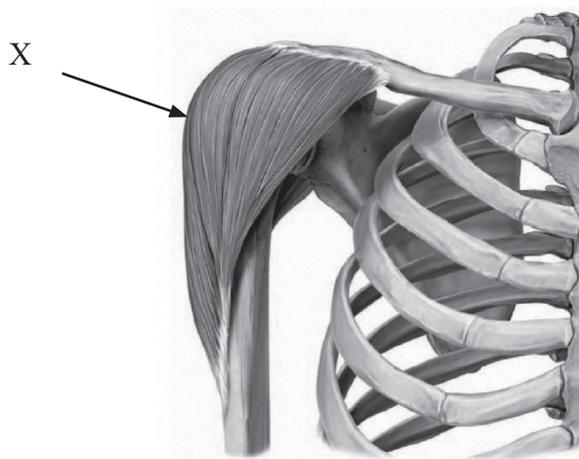
INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Answer all the questions.
- For each question, choose the answer you consider to be the best and indicate your choice on the answer sheet provided.
- The maximum mark for this examination paper is *[30 marks]*.

1. Which bone is part of the appendicular skeleton?
 - A. Skull
 - B. Vertebral column
 - C. Humerus
 - D. Sternum

2. What best describes synovial joints?
 - A. They permit no movement.
 - B. They are freely moveable.
 - C. They are tightly connected by cartilage.
 - D. They permit only slight movement.

3. What is the name of the skeletal muscle indicated by X?



- A. Pectoralis
- B. Trapezius
- C. Iliopsoas
- D. Deltoid

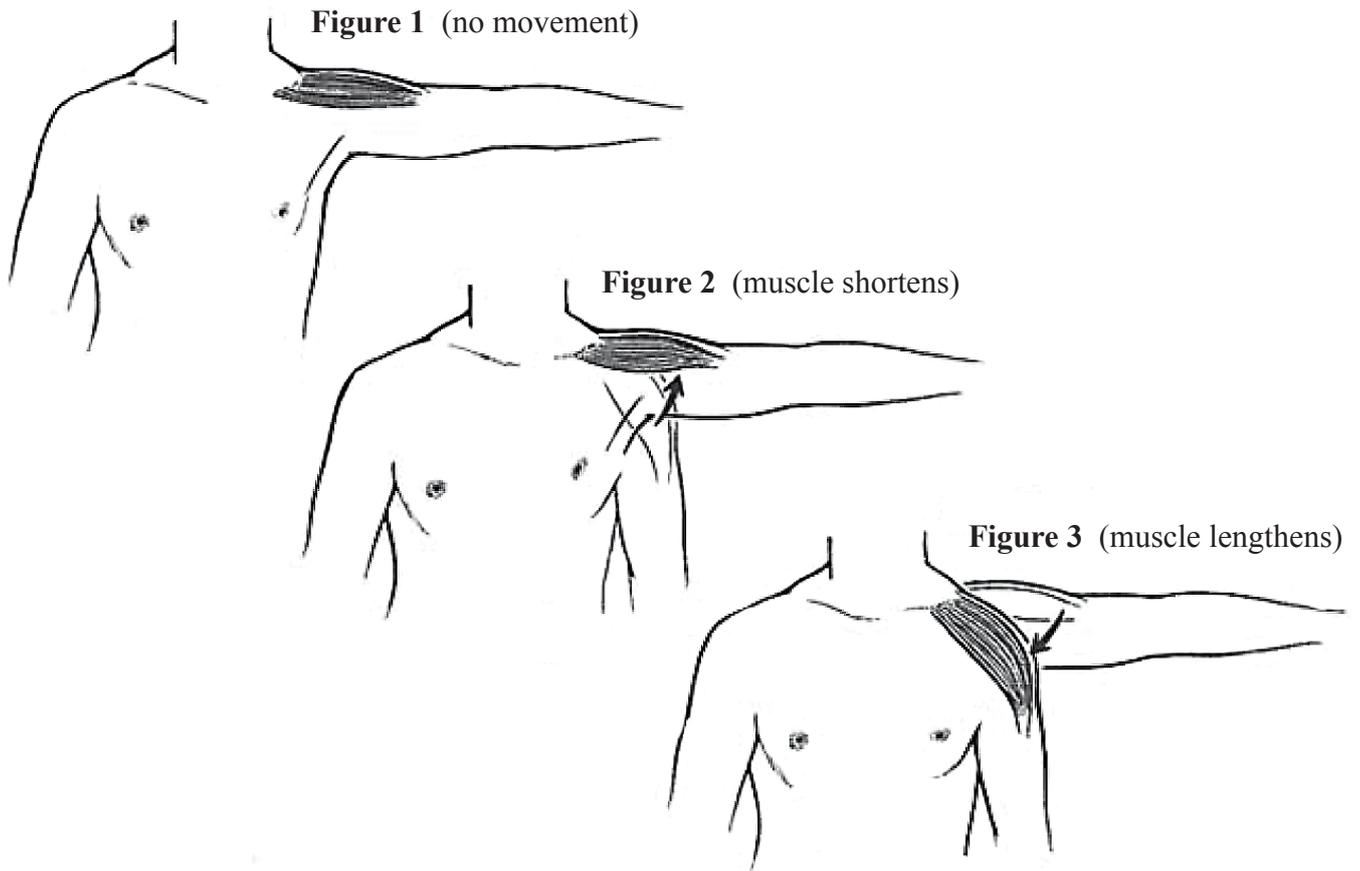
4. What is a basic function of the interior structure of the nose during respiration?
- A. To provide a passageway for food
 - B. To create friction during breathing
 - C. To warm and moisten incoming air
 - D. To prevent the lungs from collapsing
5. Which is an example of a blood cell?
- I. Leucocyte
 - II. Platelet
 - III. Plasma
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II and III
6. What is the definition of *systolic blood pressure*?
- A. The force exerted by blood on arterial walls during ventricular contraction
 - B. The lowest pressure in the arteries during systole
 - C. The blood pressure flowing into the right ventricle
 - D. The friction between blood and the blood vessel walls

7. Which correctly describes pulmonary circulation?
- A. left ventricle → pulmonary veins → lungs
 - B. right ventricle → pulmonary arteries → lungs
 - C. right atrium → pulmonary veins → lungs
 - D. left atrium → pulmonary arteries → lungs
8. Which of the following occurs when an athlete moves from a stationary position to slow running?
- A. An increase in cardiac output with no change in stroke volume
 - B. No increase in cardiac output but an increase in stroke volume
 - C. No increase in cardiac output and heart rate
 - D. An increase in cardiac output and stroke volume
9. What causes ventilation to increase during exercise?
- A. Increased carbon dioxide level
 - B. High pH
 - C. Decreased blood acidity level
 - D. Lower carbon dioxide level
10. Which statement is correct for an athlete performing the Fosbury Flop high jump technique?
- A. The centre of mass remains inside the body during flight.
 - B. The centre of mass moves outside the body during flight.
 - C. The centre of mass remains fixed outside the body during flight.
 - D. The centre of mass remains fixed inside the body during flight.

11. What is the composition of a triacylglycerol?
- A. Three glycerols and one fatty acid
 - B. One glycerol and three fatty acids
 - C. Two glycerols and one fatty acid
 - D. Three glycerols and three fatty acids
12. What is the chemical composition of a protein molecule?
- A. Oxygen and nitrogen
 - B. Carbon, oxygen and nitrogen
 - C. Hydrogen, nitrogen and oxygen
 - D. Carbon, hydrogen, oxygen and nitrogen
13. What is the approximate energy content per 100 g of protein?
- A. 17.2 kJ
 - B. 172 kJ
 - C. 1720 kJ
 - D. 1760 kJ
14. Which of the following are major sites of triglyceride storage?
- A. Adipose tissue and bone tissue
 - B. Adipose tissue and cardiac muscle tissue
 - C. Adipose tissue and skeletal muscle tissue
 - D. Adipose tissue and nervous tissue

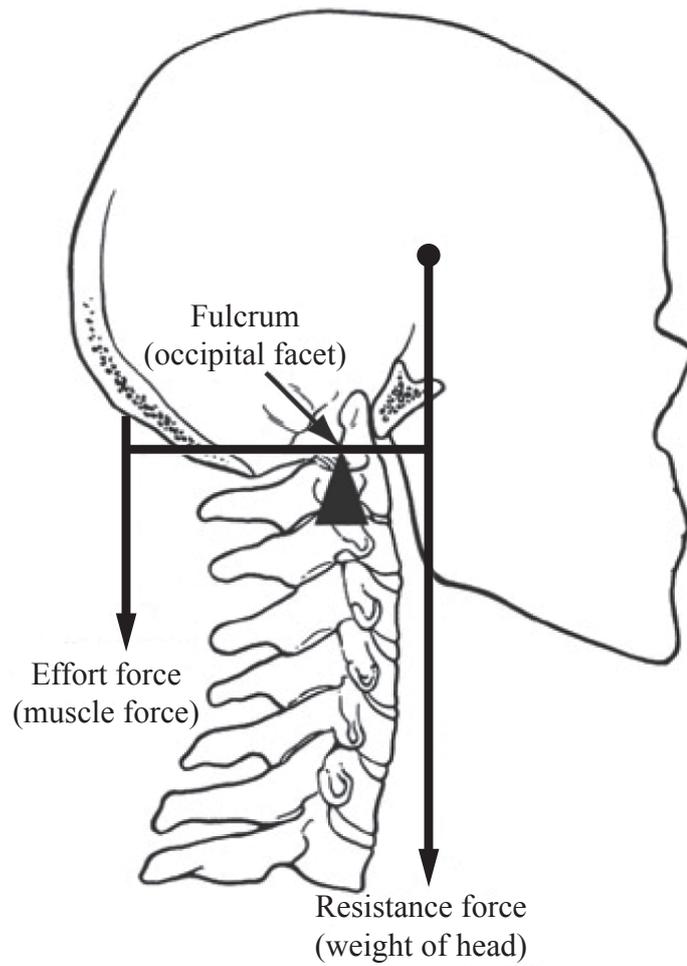
15. Which is classified as a macronutrient?
- A. Carbohydrate
 - B. Vitamins
 - C. Minerals
 - D. Fibre
16. Which of the following are parts of a motor unit?
- A. Dendrite, cell body, nucleus and axon
 - B. Dendrite, cell body, tendon and muscle
 - C. Dendrite, cell body, cartilage and axon
 - D. Dendrite, cell body, ligament and muscle

17. Which combination of muscle action is correct for figures 1, 2 and 3?



	1	2	3
A.	isometric	eccentric	concentric
B.	eccentric	isometric	concentric
C.	concentric	isometric	eccentric
D.	isometric	concentric	eccentric

18. Which class of lever system is shown below?



- A. First
 - B. Second
 - C. Third
 - D. Both first and third
19. What is the definition of the term *impulse*?
- A. The rate of change of velocity
 - B. A force that acts in opposite to the movement of one surface on another
 - C. The product of force multiplied by the time during which the force acts
 - D. The speed of an object in a given direction

20. Which of the following is a perceptual motor ability?
- A. Trunk strength
 - B. Dynamic flexibility
 - C. Gross body equilibrium
 - D. Reaction time
21. What is the relationship between angular momentum, moment of inertia and angular velocity?
- A. Angular velocity is the product of angular momentum and moment of inertia.
 - B. Moment of inertia is the product of angular momentum and angular velocity.
 - C. Angular momentum is the product of moment of inertia and angular velocity.
 - D. Angular momentum is the result of moment of inertia minus angular velocity.
22. Which activity is an example of an interactive skill?
- A. Shooting in archery
 - B. Playing in a game of hockey
 - C. Vaulting in gymnastics
 - D. Throwing a javelin
23. Where is the origin of interoceptor feedback?
- A. Blood vessels, visceral organs and the nervous system
 - B. Muscles, tendons and joints
 - C. Mouth, nose and eyes
 - D. Inner ear, skin and hair

24. Which describes learning in a negative acceleration curve?
- A. It is in a period of transition.
 - B. It starts slowly but speeds up.
 - C. It is faster in the earlier stages.
 - D. It is directly related to the number of trials.

25. Which sprinter has the fastest response time off the blocks?

	Sprinter			
	1	2	3	4
Reaction time / milliseconds	160	170	160	170
Movement time / milliseconds	180	170	165	160

- A. 1
 - B. 2
 - C. 3
 - D. 4
26. Which correctly describes the concept of transfer of learning?
- A. A change in the capability of a person to perform a skill
 - B. The sensory feedback that is available when performing a skill
 - C. The influence of a previously practised skill on the learning of a new skill
 - D. The act of performing a skill at a specific time and in a specific situation

27. 100 athletes were timed running 800 m. How many would be within ± 2 standard deviations of the mean time?
- A. 68
 - B. 95
 - C. 65
 - D. 99
28. Which is a performance-related (skill-related) fitness component?
- A. Body composition
 - B. Aerobic capacity
 - C. Reaction time
 - D. Muscular endurance
29. What do error bars represent?
- A. The value of the group mean
 - B. A correlation between two variables
 - C. The independent variable
 - D. The standard deviation
30. Which of the following represents the OMNI scale of perceived exertion?
- A. 6 (no exertion at all) – 20 (maximal exertion)
 - B. 1 (no exertion at all) – 20 (maximal exertion)
 - C. 1 (very, very easy) – 10 (extremely hard)
 - D. 0 (not tired at all) – 10 (very, very tired)