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International Baccalaureate®
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**SPORTS, EXERCISE AND HEALTH SCIENCE
STANDARD LEVEL
PAPER 1**

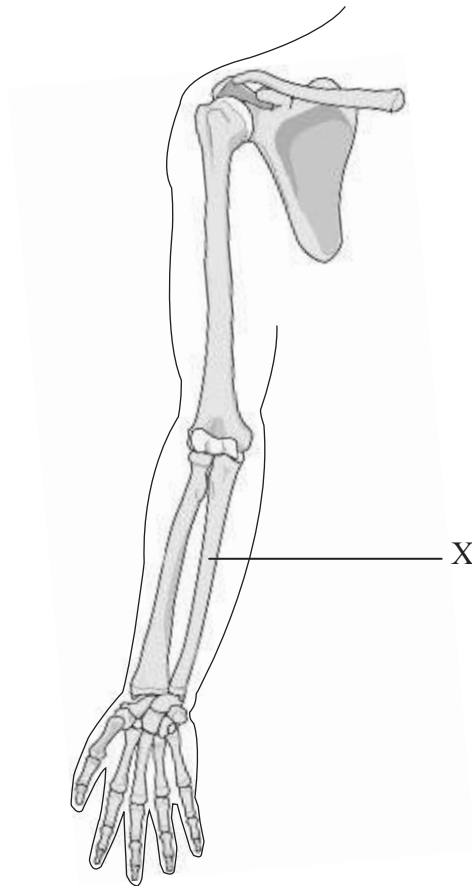
Wednesday 7 May 2014 (morning)

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]*.

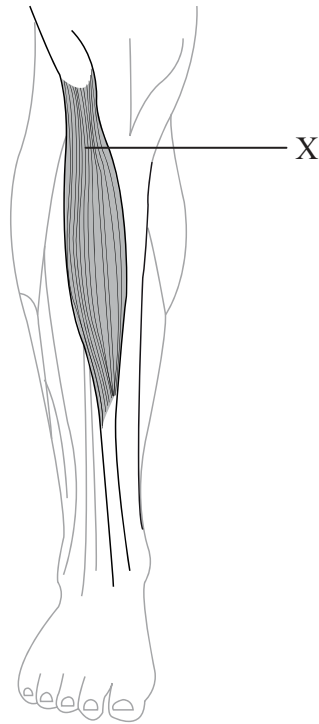
1. What is the name of the bone indicated by label X in the diagram below?



[Source: adapted from http://www.anatomy.gatech.edu/cnotes/skel_f.html]

- A. Radius
- B. Humerus
- C. Scapula
- D. Ulna
2. What term is used for the point of attachment of the muscle tendon to a stationary bone?
- A. Myofibril
- B. Sarcomere
- C. Origin
- D. Insertion

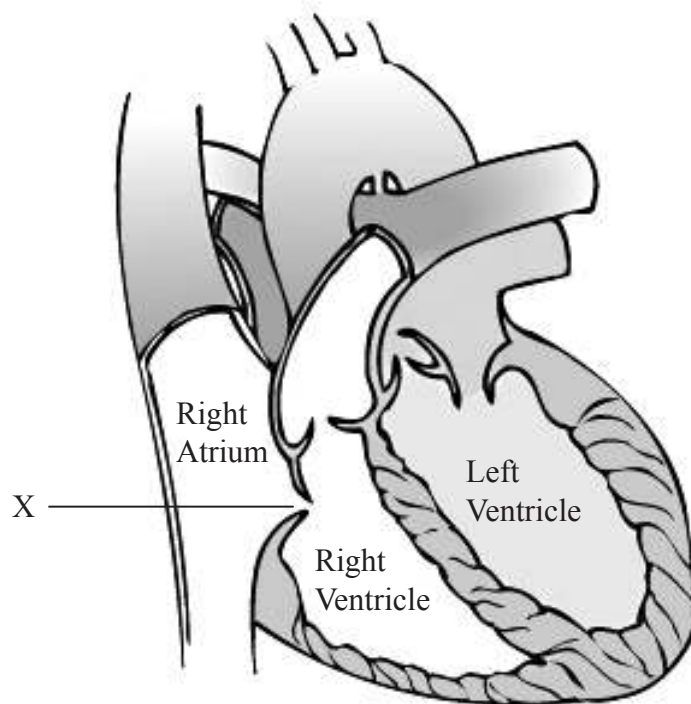
3. What is the name of the skeletal muscle indicated by label X in the diagram below?



[Source: <http://saveyourself.ca>]

- A. Rectus femoris
 - B. Achilles
 - C. Tibialis anterior
 - D. Soleus
4. What is vital capacity?
- A. The volume of air in the lungs after maximum inhalation
 - B. The volume of air inhaled and exhaled in any one breath
 - C. Maximum volume of air that can be exhaled after a maximum inhalation
 - D. Additional inspired air over and above tidal volume

5. Which heart valve is indicated by label X in the diagram below?



[Source: <http://oneheartcareteam.org/HeartValveDisease.17779/>]

- A. Bicuspid
 - B. Tricuspid
 - C. Aortic
 - D. Pulmonary
6. Which combination describes the cardiovascular adaptations from an endurance exercise training programme?

A.	increased stroke volume	increased capillarization	increased blood pressure
B.	increased arterio-venous oxygen difference	increased cardiac output	increased blood pressure
C.	lower resting heart rate	increased capillarization	increased left ventricular volume
D.	lower resting heart rate	increased arterio-venous oxygen difference	increased body temperature

7. What is **one** function of platelets?
- A. Deliver oxygen
 - B. Fight infection
 - C. Blood clotting
 - D. Antibody storage
8. What can cause low pH levels in the blood during aerobic exercise?
- A. Increased carbon dioxide content
 - B. Increased hemoglobin content
 - C. Increased oxygen content
 - D. Increased phosphocreatine
9. What is the function of the conducting airways?
- A. Cool and moisten the air
 - B. High resistance for air flow
 - C. Warm and moisten the air
 - D. Gaseous exchange

10. Which of the following are the major sites of triglyceride storage?

- I. Adipose tissue
- II. Liver
- III. Skeletal muscle

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

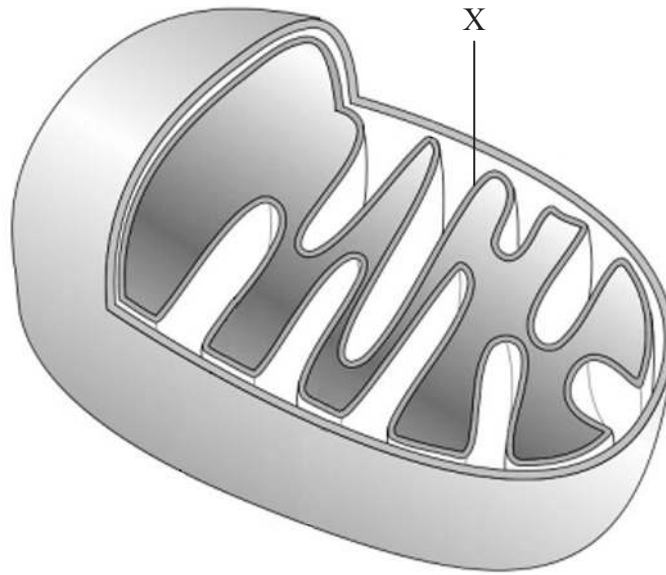
11. Which is an example of unsaturated fat?

- A. Coconut oil
- B. Full-fat dairy products
- C. Canola oil
- D. Meat products

12. What is the chemical composition of a protein molecule?

- A. C, H, O and N
- B. C, H and O (1:2:1 ratio)
- C. Glycerol and three fatty acids
- D. H, N and O

13. Which mitochondrial structure is identified by label X in the diagram below?

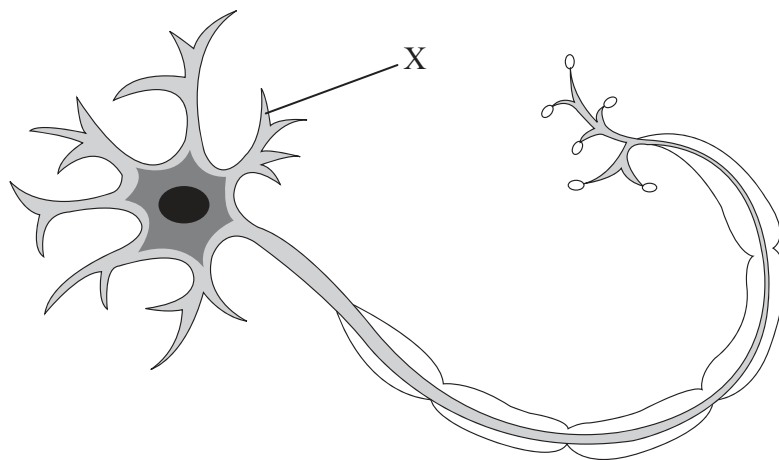


[Source: <http://www.sciencegeek.net/Biology/review/U2Review.htm>]

- A. Inner matrix
 - B. Cristae
 - C. Outer membrane
 - D. Inner membrane
14. What term is used to describe the breakdown of glucose to pyruvate in the absence of oxygen?
- A. Aerobic glycolysis
 - B. Glycogenesis
 - C. Anaerobic glycolysis
 - D. Glycogenolysis

15. What process occurs in the cytoplasm of a muscle cell?
- A. Anaerobic glycolysis
 - B. Aerobic glycolysis
 - C. Krebs cycle
 - D. Electron transport chain

16. What structure is indicated by label X in the diagram below?



[Source: adapted from http://www.bbc.co.uk/schools/gcsebitesize/science/ocr_gateway_pre_2011/ourselves/3_keeping_in_touch5.shtml]

- A. Cell body
- B. Axon
- C. Dendrite
- D. Motor end plate

17. Which of the following is a vector?
- A. Speed
 - B. Distance
 - C. Displacement
 - D. Time
18. Which describes the relationship between moment of inertia, angular momentum and angular velocity?
- A. angular momentum = moment of inertia \times angular velocity
 - B. angular momentum = moment of inertia + angular velocity
 - C. angular momentum = moment of inertia – angular velocity
 - D. angular momentum = moment of inertia \div angular velocity
19. Which of the following factors affect the projectile motion of a shot put at release?
- I. Speed of release
 - II. Height of release
 - III. Angle of release
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III

20. What type of muscle contraction involves no change in the muscle length?

- A. Isokinetic
- B. Isometric
- C. Concentric
- D. Eccentric

21. How is the term *skill* best defined?

- A. The consistent production of goal-oriented movements
- B. An inconsistent performance over time
- C. The influence of having previously performed a task
- D. A group of aptitudes useful for a specific activity

22. Which term is defined by a “way of doing”?

- A. Ability
- B. Efficiency
- C. Technique
- D. Schema

23. Which of the following are types of skill?

A.	cognitive	proficiency	perceptual motor
B.	cognitive	perceptual	perceptual motor
C.	goal-directed	proficiency	perceptual
D.	goal-directed	perceptual	perceptual motor

24. What are the features of Welford's model of information processing?
- A. sense organs, perception, kinetics
 - B. sense organs, perception, duration
 - C. sense organs, perception, overlearning
 - D. sense organs, perception, feedback
25. How is *learning* best defined?
- A. A temporary change occurring over time
 - B. A pattern of actions carried out to satisfy an objective
 - C. The use of large muscles to achieve a goal
 - D. A relatively permanent change in performance
26. What is the coefficient of variation?
- A. The ratio of the standard deviation to the mean, expressed as a percentage
 - B. The sum of the values divided by the number of values
 - C. The variation that exists from the mean or expected value
 - D. Any of a broad class of statistical relationships involving dependence
27. What percentage represents values within ± 1 standard deviation for normally distributed data?
- A. 95%
 - B. 75%
 - C. 68%
 - D. 48%

- 28.** How is the Karvonen method best described?
- A. A rating of perceived exertion
 - B. A technique for determining oxygen uptake
 - C. An overload technique
 - D. A way of monitoring exercise intensity
- 29.** Which is a test to measure body composition?
- A. Flexed arm hang
 - B. Hand grip dynamometer
 - C. Cooper's 12 Minute Run
 - D. Anthropometry
- 30.** What is an essential element of a general training programme?
- A. Interval training
 - B. Fartlek training
 - C. Stretching activities
 - D. Isometric contractions
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