



22136601



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

Monday 6 May 2013 (morning)

45 minutes

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**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]*.

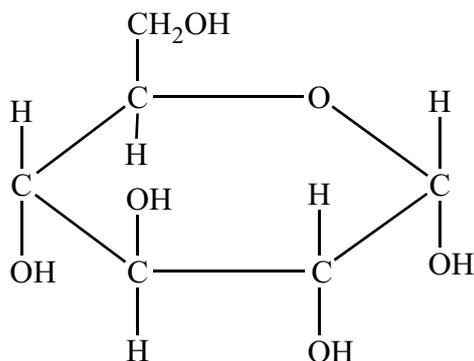
1. What are four types of bone?
  - A. long, short, flat, irregular
  - B. long, short, compact, spongy
  - C. compact, spongy, flat, irregular
  - D. flat, irregular, long, spongy
  
2. Which movement characteristics apply to cartilaginous joints?
  - A. No observable movement
  - B. Allow for expansion of skull
  - C. Allow for a wide range of movement types
  - D. Slight movements between intervertebral discs
  
3. Which of the following are characteristics of cardiac muscle?
  - I. Striated
  - II. Involuntary
  - III. Voluntary
  - A. I and II only
  - B. I and III only
  - C. II and III only
  - D. I, II and III

4. What are the principle structures of the ventilatory system?
- A. nose, pharynx, bronchioles, diaphragm
  - B. nose, trachea, bronchioles, alveoli
  - C. mouth, larynx, lungs, diaphragm
  - D. mouth, trachea, alveoli, ribs
5. How is the *vital capacity* of the lungs best defined?
- A. The volume of air inspired and expired at rest
  - B. The volume of air which is inspired or expired in one minute
  - C. The maximum amount of air that a person can expel from the lungs from a position of full inspiration
  - D. The volume of air that can still be expired following normal expiration at rest
6. What are the major components of blood?
- A. erythrocytes, leucocytes, platelets
  - B. plasma, gases, erythrocytes
  - C. plasma, hormones, erythrocytes
  - D. plasma, water, leucocytes
7. Which blood vessel directly supplies the heart?
- A. Superior vena cava
  - B. Inferior vena cava
  - C. Coronary artery
  - D. Right pulmonary artery

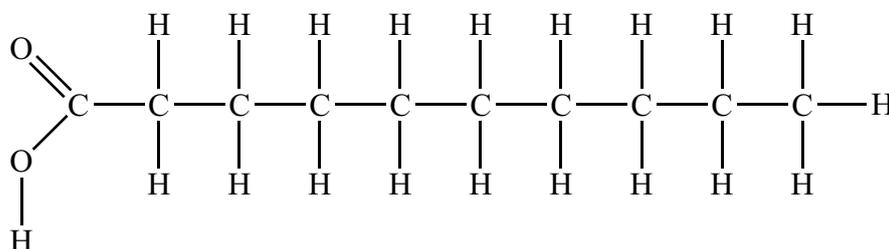
8. Where is the electrical impulse in the heart generated?
- A. Bundle of His
  - B. Sinoatrial node
  - C. Synapse
  - D. Atrioventricular node
9. What best describes diastolic blood pressure?
- A. Force on arterial walls during ventricular relaxation
  - B. Force on arterial walls during atrial relaxation
  - C. Force on arterial walls during ventricular contraction
  - D. Force when the heart pumps blood into the system

10. Which is the basic structure of a glucose molecule?

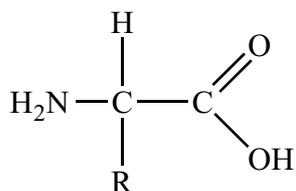
A.



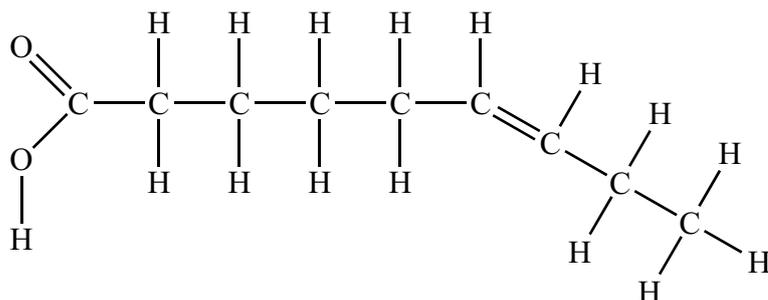
B.



C.

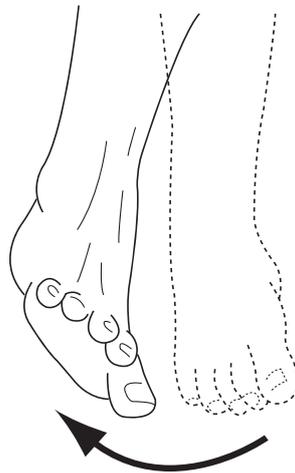


D.



11. Which of the following are macronutrients?
- A. water, lipid (fat), fibre, protein
  - B. water, vitamins, minerals, fibre
  - C. vitamins, minerals, protein
  - D. water, lipid (fat), carbohydrate, protein
12. What are the major sites of triglyceride storage?
- A. adipose tissue and pancreas
  - B. skeletal muscle and liver
  - C. adipose tissue and liver
  - D. adipose tissue and skeletal muscle
13. What component of the aerobic system produces the greatest number of ATP molecules?
- A. Krebs cycle
  - B. Electron transport chain
  - C. Anaerobic glycolysis
  - D. Aerobic glycolysis
14. What is the energy content per 100 g of a carbohydrate molecule?
- A. 1720 kJ
  - B. 1760 kJ
  - C. 4000 kJ
  - D. 17 600 kJ

15. Which term best describes the breakdown of complex chemical substances into simpler compounds in the absence of oxygen?
- A. Metabolism
  - B. Anaerobic anabolism
  - C. Anaerobic catabolism
  - D. Aerobic catabolism
16. Which best describes Newton's first law of motion?
- A. An unbalanced force acts on a body
  - B. For every action force, there is an equal and opposite reaction force
  - C. An object will remain stationary or will move at a constant velocity or in a straight line
  - D. The amount of change in the momentum of an object
17. What is the term used to describe the movement below?



- A. Pronation
- B. Supination
- C. Eversion
- D. Inversion

18. Which of the following affects the flight path of a projectile?
- A. Height of release
  - B. Displacement of release
  - C. Centre of mass
  - D. Moment of inertia
19. What is displacement?
- A. The speed of an object in a certain direction
  - B. The amount of motion possessed by a moving body
  - C. The rate of change in velocity
  - D. The shortest distance from the initial to the final position of a moving body
20. What does the Bernoulli principle refer to?
- A. Projectile motion
  - B. Centre of mass
  - C. Angle of release
  - D. Moment of inertia
21. Which of the following best defines the term *skill*?
- A. The consistent production of goal-oriented movements
  - B. A stable, enduring characteristic that is genetically determined
  - C. A way of doing
  - D. The selection of an appropriate technique

22. What is response time?
- A. Signal time + movement time
  - B. Stimulus detection + movement time
  - C. Reaction time + movement time
  - D. Reaction time + signal time
23. What is the term used to describe a hard court tennis player competing on a grass court for the first time?
- A. Bilateral transfer
  - B. Stage to stage transfer
  - C. Positive skill to skill transfer
  - D. Negative skill to skill transfer
24. Which is an example of Fleishman's physical proficiency abilities?
- A. Static strength
  - B. Manual dexterity
  - C. Arm-hand steadiness
  - D. Response orientation
25. Which of the following describes variable basketball practice?
- A. Practice with very short rest periods
  - B. Practice with long rest periods between sessions
  - C. Practice with individual skills, group drills and minor games
  - D. Practice with the skill in the player's mind

26. What is the command style of teaching?
- A. Learners work in pairs and take it in turns to be an observer and performer
  - B. Allows the learners to take more responsibility
  - C. The teacher makes all the decisions
  - D. Encourages learners to be creative
27. Which is a health-related aspect of fitness?
- A. Flexibility
  - B. Agility
  - C. Reaction time
  - D. Speed
28. Which is a valid test of muscle endurance?
- A. Leger Test
  - B. Maximum sit-ups
  - C. Cooper's 12 Minute Run
  - D. Hand grip dynamometer
29. What do error bars on a graph represent?
- A. Range
  - B. Variability
  - C. Coefficient
  - D. Significance

30. What percentage of values is normally distributed within  $\pm 1$  standard deviation of the mean?
- A. 65%
  - B. 98%
  - C. 95%
  - D. 68%
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