Diploma Programme
Programme du diplôme
Programa del Diploma

Sports, exercise and health science
Standard level
Paper 1

5 November 2025

Zone A afternoon | **Zone B** afternoon | **Zone C** 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]**.

8825 – 6804

12 pages

1. Which are characteristics of compact bone?

A. Smooth, hard layers surrounding the outer portion of a long bone

B. Porous, less dense tissue surrounding bone marrow

C. Smooth, tough structure at the point of articulation of a long bone

D. Semi-solid tissue where blood cells are produced

2. Which are characteristics of smooth muscle tissue?

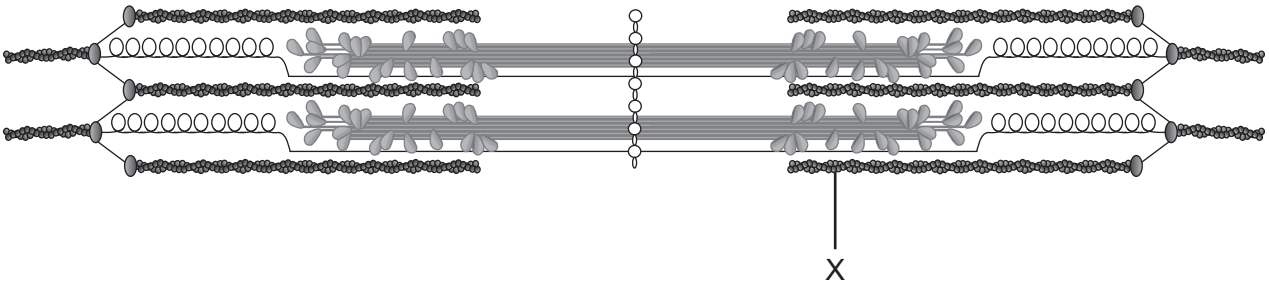
A. Striated cells

B. Multinucleated

C. Branching cells

D. Uninucleated

3. What is labelled X on the sarcomere?



A. Actin

B. Myosin

C. Myofibril

D. Epimysium

4. Which are principal structures of the ventilatory system?

I. Bronchiole
II. Pulmonary artery
III. Alveoli

A. I and II only

B. I and III only

C. II and III only

D. I, II and III

5. What is involved in neural control of ventilation?

A. Sinoatrial and atrioventricular nodes

B. Adrenaline and cortisol response

C. Diaphragm and accessory muscles

D. Lung stretch receptors and chemoreceptors

6. What benefit does an endurance athlete receive from having increased erythrocyte levels?

A. Improved clot formation in the event of an injury

B. Increased oxygen-carrying capacity of the blood

C. Increased ability of the body to fight infection

D. Improved repair of the skin barrier

7. What helps regulate strength and depth of ventilation when an athlete begins to exercise?

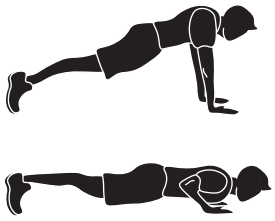
A. A decrease in blood pH

B. An increase in blood pH

C. A decrease in blood CO_2 levels

D. An increase in blood O_2 levels

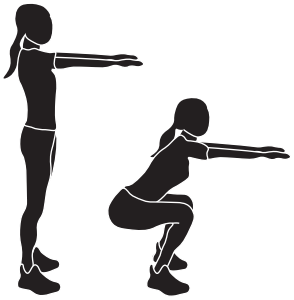
8. Which exercise will result in an elevation of both systolic and diastolic blood pressure?



A. Press ups

B. Plank

C. Jogging on the spot



D. Squats

9. Which cardiovascular adaptation occurs from training for a marathon?

A. Decreased left ventricular volume

B. Decreased capillarization

C. Decreased arterio-venous oxygen difference

D. Decreased resting heart rate

10. Which is a function of lipid?

A. Fast source of energy

B. Primary energy source for the nervous system

C. Cushion and insulate the body

D. Provide structure to build and repair tissues

11. What describes the composition of a molecule of triacylglycerol?

A. Two monosaccharides linked by a condensation reaction

B. A ring structure linking carbon, hydrogen and oxygen atoms

C. A glycerol molecule linked to three fatty acids

D. Three amino acid chains coiled together

12. Which element distinguishes a protein molecule from a fat molecule?

A. Carbon

B. Nitrogen

C. Hydrogen

D. Oxygen

13. What is the energy content per 100 g of protein?

A. 1700 KJ

B. 1720 KJ

C. 1740 KJ

D. 1760 KJ

14. What represents the majority of adenosine triphosphate (ATP) production in a 90-minute soccer game?

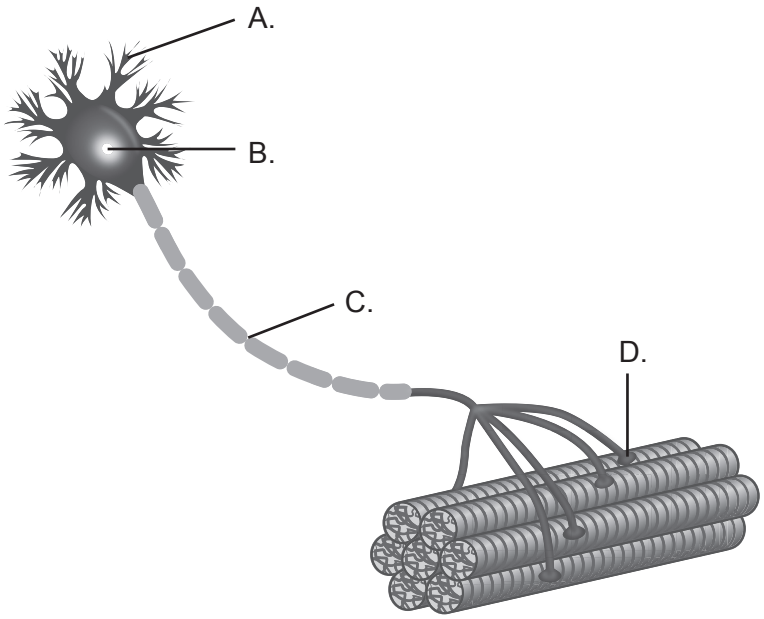
A. 2 ATP per glucose molecule and no lactic acid

B. 2 ATP per glucose molecule and lactic acid

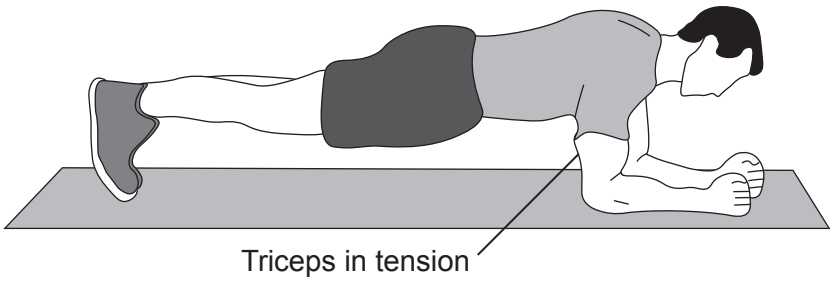
C. 36 ATP per glucose molecule and no lactic acid

D. 36 ATP per glucose molecule and lactic acid

15. What represents the site of neurotransmitter release?



16. Which type of contraction occurs in the triceps while performing a plank?



A. Isotonic

B. Isokinetic

C. Isometric

D. Concentric

17. Which is a vector quantity?

A. Speed

B. Time

C. Displacement

D. Mass

18. What is an example of a third class lever?

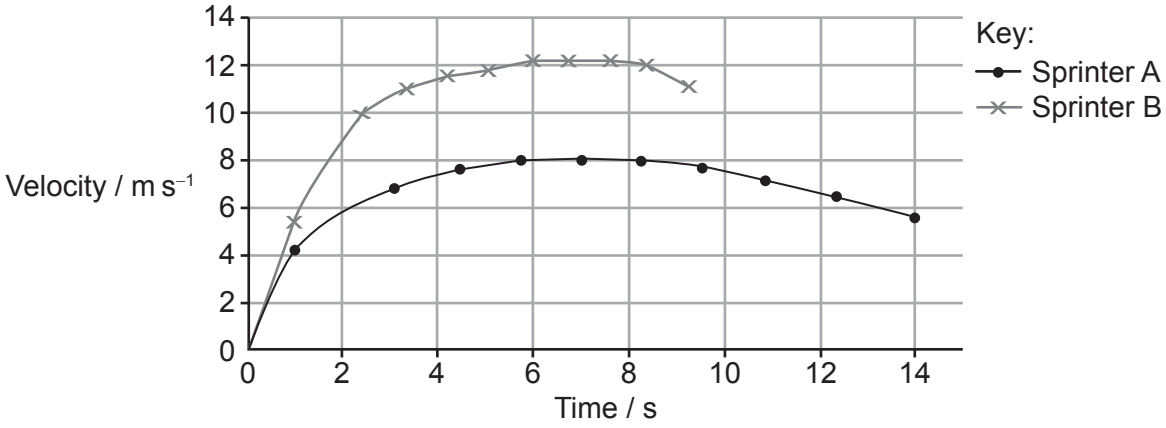
A. The elbow when lifting a dumbbell

B. The ankle at take-off for a long jump

C. The neck when heading a football (soccer) ball

D. The elbow when shooting in basketball

19. The velocity–time graph shows the performance of two sprinters.



Which statement describes the sprinters at 1 second?

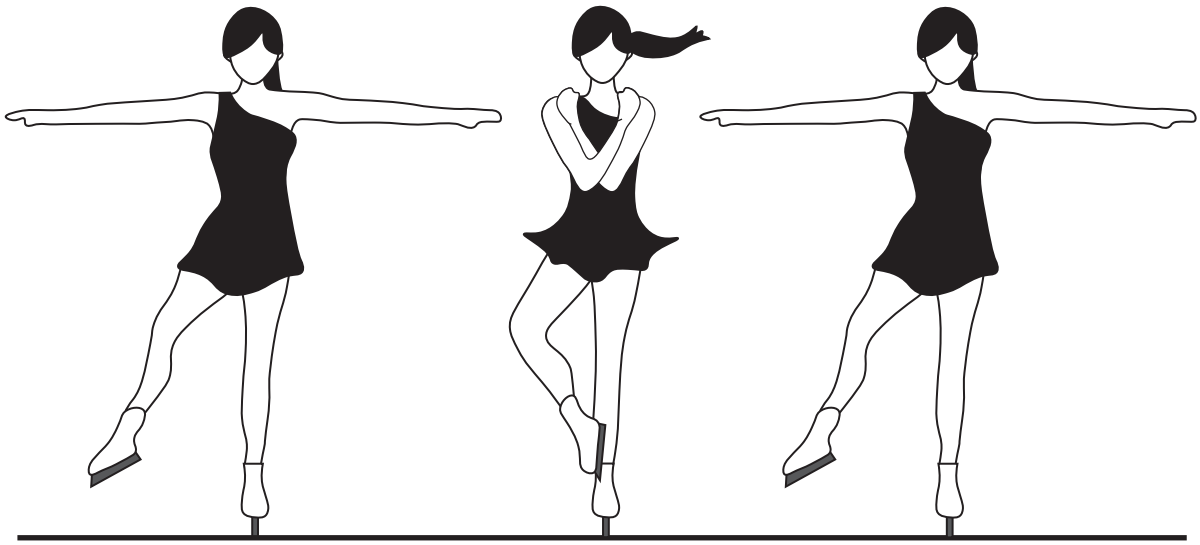
A. Sprinter A is moving faster than sprinter B.

B. Sprinter B is moving faster than sprinter A.

C. Both sprinters are moving at the same velocity.

D. Both sprinters are not moving.

20. A figure skater tucks her arms in as she is spinning. What is the effect?



A. Angular velocity increases, moment of inertia decreases.

B. Moment of inertia increases, rotations decrease.

C. Rotations increase, angular momentum decreases.

D. Angular momentum increases, angular velocity decreases.

21. Dribbling is when a soccer (football) player travels with the ball at their feet.

Which classification of motor skills describes dribbling?

A.	Gross	Serial	Open
B.	Fine	Serial	Closed
C.	Gross	Discrete	Open
D.	Fine	Discrete	Closed

22. What applies to a skilled performer?

A. They rely on external feedback to understand the skill.

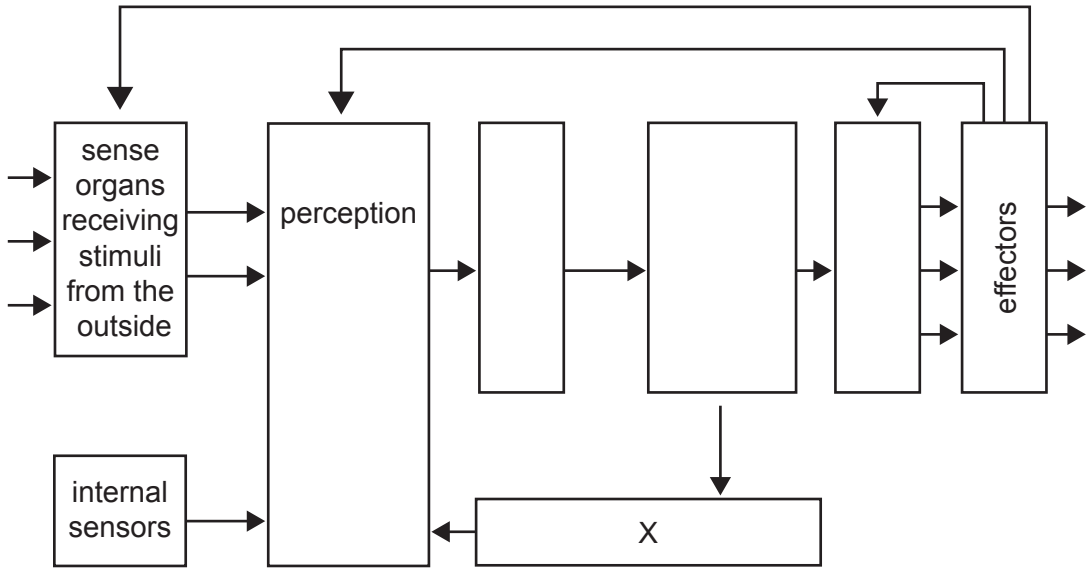
B. They show unrefined movement in the execution of their skill.

C. They begin to use more energy for the same task.

D. They produce actions that are aligned with specific goals.

23. The diagram shows Welford's model of information processing (1968).

Welford's model 1968



What does X represent?

A. Short-term memory

B. Decision-making

C. Effector control

D. Long-term memory

24. Which characteristic describes the short-term sensory store?

A. Information that is readily available for 15–30 seconds

B. Information that is not considered important will be lost

C. Information that is selected for future reference

D. Information with the capacity of 7 $\pm$ 2 bits of information

25. What applies to reaction time?

I. It encompasses almost all elements of the information-processing model.

II. It is not easy to improve.

III. The time between the onset of a stimulus and the beginning of a motor response.

A. I and II only

B. I and III only

C. II and III only

D. I, II and III

26. A performer learns to pass with their left foot when they have previously learned this skill with their right foot. What type of transfer is described?

A. Principles to skills

B. Bilateral

C. Stage to stage

D. Practice to performance

27. A mean of 240 kg was recorded with a standard deviation of 20 kg for a team of weightlifters. What percentage of the data spread is represented by a weight range from 200–280 kg?

A. 68 %

B. 90 %

C. 95 %

D. 99 %

28. Which is a health-related component of fitness?

A. Power

B. Speed

C. Muscular strength

D. Reaction time

29. Which component of fitness is used by a rugby player when changing direction to evade a tackle?

A. Muscular endurance

B. Agility

C. Aerobic capacity

D. Flexibility

30. What is required to calculate exercise intensity using the Karvonen method during training?

A. Training heart rate range and maximum heart rate

B. Resting heart rate and maximum heart rate

C. Maximal oxygen uptake and resting heart rate

D. Rating of perceived exertion and resting heart rate

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References:

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