DULWICH COLLEGE | SINGAPORE |

Year 9 Examination
Physical Education
May 2017

Name:.....

Time allowed: **1 hour 30 minutes**

- Students are to attempt all questions on the examination paper.
- Additional paper is available upon request.

They will be assessed on:
AO1: Demonstrate knowledge and understating of the factors that underpin performance and involvement in physical activity and sport.
AO2: Apply knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.
AO3: Analyse and evaluate the factors that underpin performance and involvement in physical activity and sport.

Total Marks available	/ 84	Teacher comment:
	%	
Level/Grade		

Student reflection

Q1. Alcohol is a recreational drug. Which **one** of the following is an effect of alcohol on the cardiovascular system?

(1)

- ☒ **A** Alcohol increases oxygen debt
- ☒ **B** Alcohol decreases lung volume
- ☒ **C** Alcohol increases blood pressure

☐ **D** Alcohol lowers blood pressure

Q2. Which **one** of the following statements is correct?

(1)

☐ **A** Obese – a term meaning very overweight
☐ **B** Overweight – a term meaning excess body fat
☐ **C** Overfat – a term meaning weight in excess of normal
☐ **D** Anorexic – a term meaning a prolonged eating disorder due to loss of appetite

Q3. Which **one** of the following performers relies most heavily on a high level of cardiovascular fitness for success?

(1)

☐ **A** 200m runner
☐ **B** 400m runner
☐ **C** 800m runner
☐ **D** 1500m runner

Q4. Which **one** of the following is the correct statement about muscle action and antagonistic muscle pairs?

(1)

☐ **A** When a muscle contracts it pushes a bone, for example, the biceps and triceps
☐ **B** Movement is brought about through antagonistic pairs, for example, the pectorals and abdominals
☐ **C** Muscles are arranged in pairs, for example, the hamstrings and quadriceps
☐ **D** When one muscle contracts the other relaxes to bring about movement, for example, the trapezius and latissimus dorsi

Q5. When should a PAR-Q be completed?

(1)

☐ **A** At the end of an exercise session
☐ **B** After a warm-up before beginning the main session
☐ **C** Before planning a Personal Exercise Programme (PEP)
☐ **D** At the end of the playing season

Q6. The development of friendships and social mixing are two social benefits of exercise. Which **one** of the following is also a **social** benefit of exercise?

(1)

☐ **A** Physical challenge
☐ **B** Aesthetic appreciation
☐ **C** Competition

☒ **D** Cooperation

Q7. Which **one** of the following is a definition of exercise?

(1)

☒ **A** A complete state of mental, physical and social wellbeing
☒ **B** A form of physical activity done to maintain or improve health and/or fitness
☒ **C** The ability to meet the demands of the environment
☒ **D** The ability to exercise the entire body for long periods of time

Q8. The FITT principle is a principle of training. Which part of the FITT principle overlaps with the principle of specificity?

(1)

☒ **A** Type
☒ **B** Time
☒ **C** Frequency
☒ **D** Intensity

Q9. Ben and Jake are cross country runners. They both take part in a series of fitness tests. After completing the Harvard Step Test, Ben recovers to his resting heart rate quicker than Jake.

Which component of fitness is being tested by the Harvard Step Test?

(1)

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Q10. The graph in **Figure 4** shows suggested target heart rate zones depending on age.

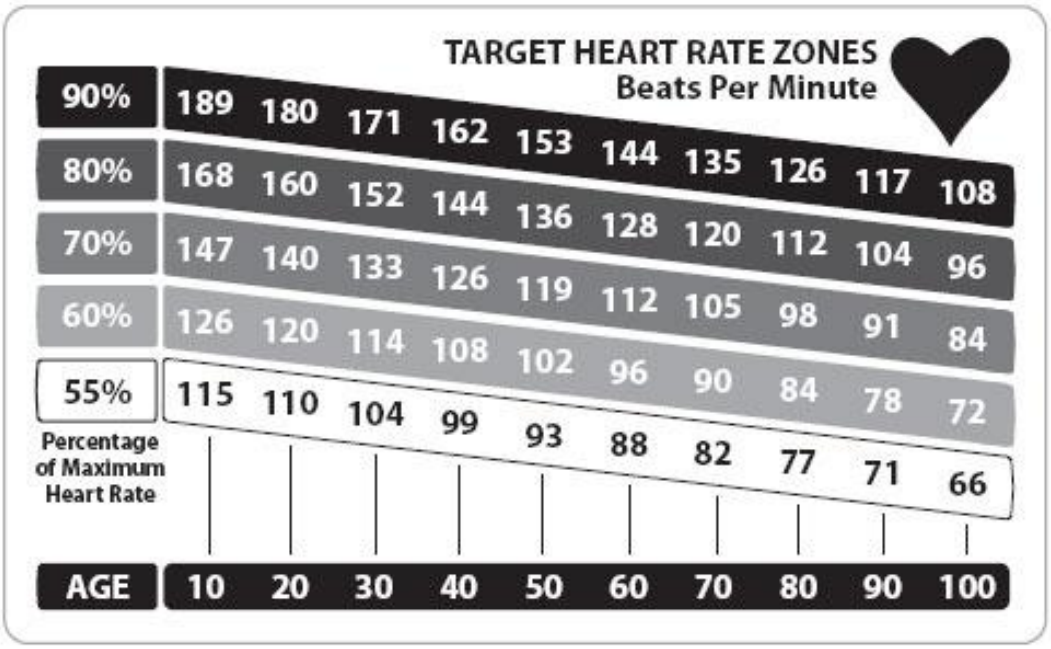

Figure 4

Using **Figure 4,** state the suggested heart rate values that a 40-year-old should work between to ensure they are in the correct target zone to improve their cardiovascular fitness.

(1)

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Q11. Complete the following statement about hinge joints.

(i) The . . . . . is an example of a hinge joint in the body.

(1)

(ii) Give a specific sporting action where this range of movement is used at this joint.

(1)

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Q12. Figure 4 shows a javelin thrower.

Position A Position B

Figure 4

Identify the joint action at the elbow as the performer in **Figure 4** moves the javelin **from** position A **to** position B.

(1)

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Q13. Elite sports performers make sure they eat a balanced diet.

Briefly explain the importance of carbohydrates and protein to an elite sports performer.

(i) Carbohydrates

(2)

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(ii) Protein

(2)

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Q14. Several muscles are listed in the table below.

Abdominals	Triceps	Gastrocnemius	Gluteals
Latissimus dorsi	Pectorals	Quadriceps	Trapezius

Using the muscles in the table, match the correct muscle to the stated action in the following statement.

Moves the thigh backward at the hip (hip extension).

(1)

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Q15. Several muscles are listed in the table below.

Abdominals	Triceps	Gastrocnemius	Gluteals
Latissimus dorsi	Pectorals	Quadriceps	Trapezius

Using the muscles in the table, match the correct muscle to the stated action in the following statement.

Adducts the upper arm at the shoulder.

(1)

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Q16. The 30-metre sprint fitness test is used as a test of speed. Explain why a table tennis coach is unlikely to use this test to measure his players' speeds.

(3)

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Q17. Sam is studying GCSE PE. As part of his course, he learns about ways to reduce high blood pressure.

Describe **two** ways to reduce high blood pressure.

(4)

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Q18. Complete the following statements about the effects of exercise on the cardiovascular system.

(i) A decreased resting heart rate is a ..... effect of exercise.

(1)

(ii) The heart responds to exercise by beating faster. As a result blood flow

..... to meet the higher demands being made on the body during exercise.

(1)

(iii) Rest **between** exercise sessions allows the cardiovascular system to adapt.

..... is an example of how the cardiovascular system may adapt.

(1)

Q19. Smoking is a lifestyle choice. Explain **one** way that smoking can impact negatively on health and wellbeing.

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…… (3)

Q20. Regular participation in physical activity, such as aerobic exercise, could reduce the risk of obesity and osteoporosis. **Explain** how **two** other risks to long-term health can be reduced through regular participation in aerobic exercise.

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(3)

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(3)

Q21. Heart rate is measured in beats per minute (bpm). **Table 3** shows a performer's heart rate at three different times during an exercise session.

156 bpm	72 bpm	80 bpm

Table 3

(a) Identify from **Table 3** the heart rate values recorded just before exercise starts and during recovery.

(2)

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(b) Give reasons for your answers.

(2)

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Q22. Figure 3 shows an athlete preparing to throw the discus.

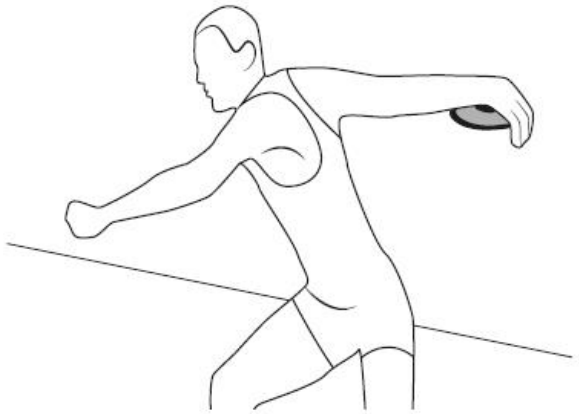

Figure 3

Analyse, using **one** example, how **one** of the ball and socket joints in the body allows the athlete to throw the discus.

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..... (3)

Q23. Figure 6 shows a gymnast moving from a standing Position A on the beam to a split Position B in the air.

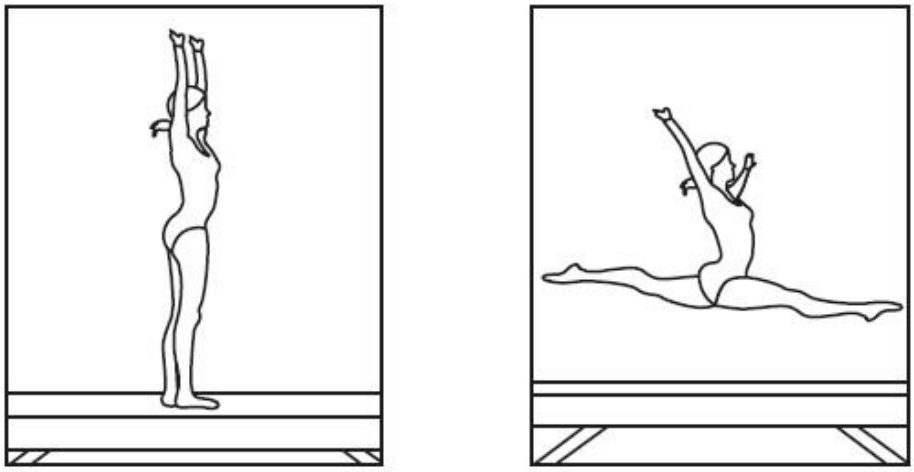

Figure 6

Analyse the movement and muscle action at the ankle as the performer in Figure 6 moves from Position A to Position B.

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..... (4)

Q24. Jango is 16 and trains regularly at an athletics club.

(a) Describe, using the Karvonen formula (simplified), how to calculate Jango's aerobic target zone.

(3)

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(b) State how the calculation would change when calculating Jango's anaerobic target zone.

(2)

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Figure 5 shows Jango's heart rate during a typical training session.

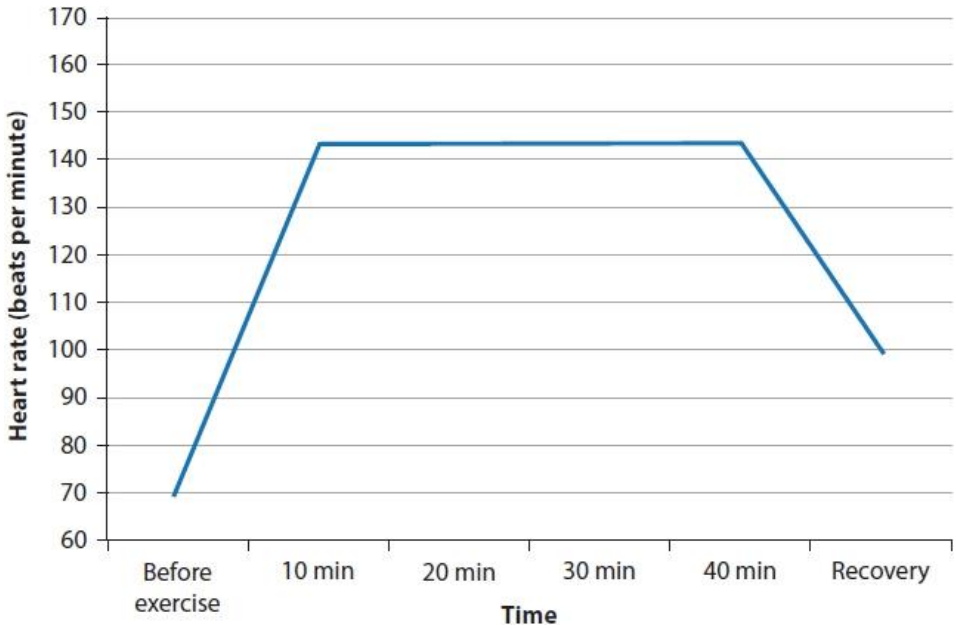

Figure 5

(c) Using **Figure 5,** explain whether Jango is training for an endurance or power event.

(4)

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Q25. Figure 4 shows a rugby player about to pass the ball.

Figure 4

(a) Examine **two** ways the skeletal system makes it possible for the rugby player to move into the position shown to pass the ball.

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..... (3)

2 .....

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..... (3)

(b) White blood cells are produced by the skeletal system. Explain, using an example, why white blood cell production is important to the rugby player.

(3)

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Q26. Figure 6 shows the muscular system while running.

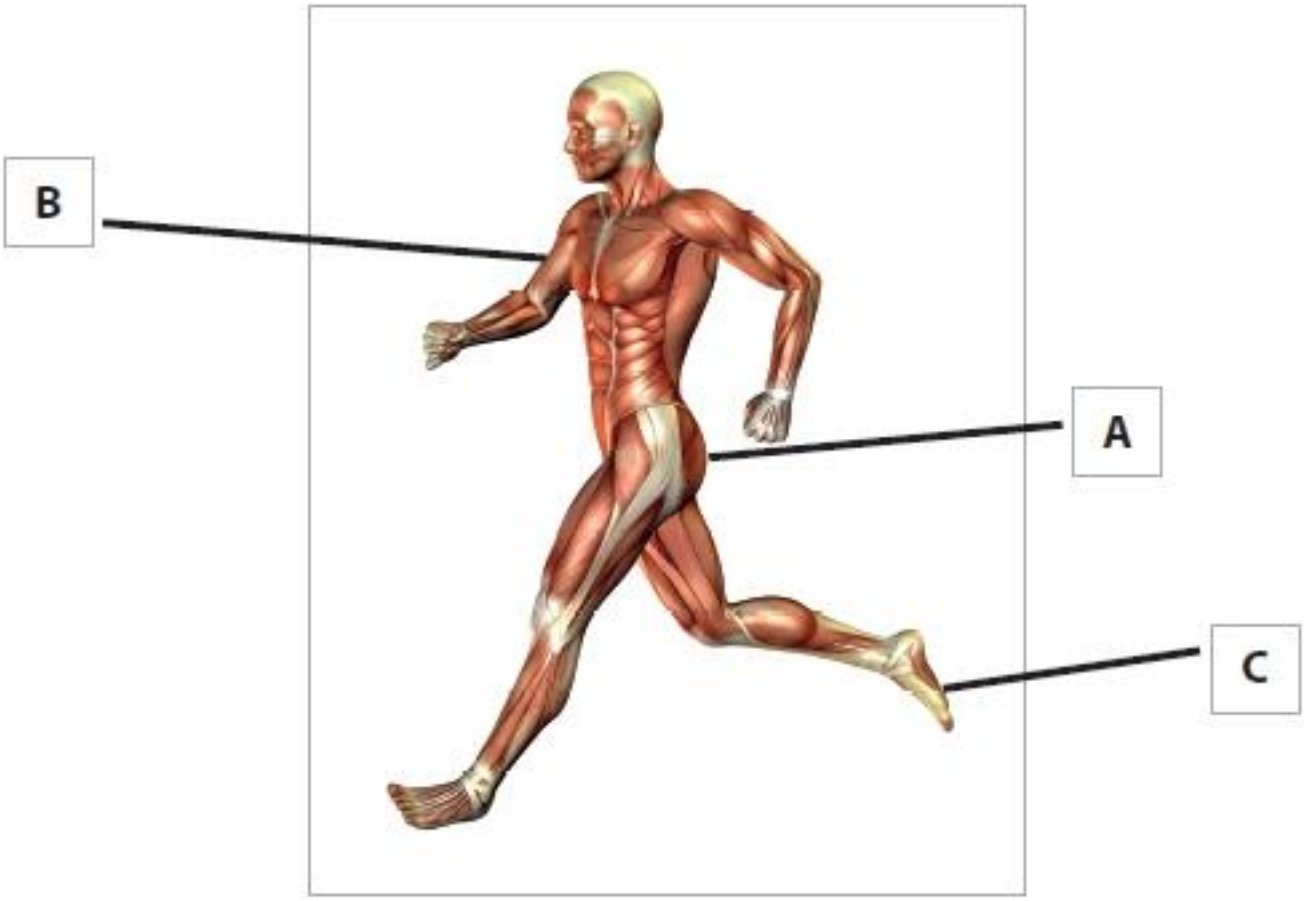

Figure 6

(a) Complete the following statements about the labelled muscles in **Figure 6.**

(2)

The muscle labelled **A** in **Figure 6** is the

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When muscle **A** contracts it

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(b) State the name of the muscle that works antagonistically with the muscle labelled **A** in **Figure 6.**

(1)

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(c) Analyse the action of muscle **B,** shown in **Figure 6,** to aid the performance of the runner.

(4)

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(d) Analyse the lever system acting at **C** in **Figure 6.**

(4)

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Q27. Discuss, using examples, how the principles of training can improve the fitness of a group of IGCSE PE students. **Candidates are not expected to use all the space provided.**

(6)

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