

CAMBRIDGE TECHNICALS LEVEL 2 (2016)

Examiners' report

SPORT AND PHYSICAL ACTIVITY

05889, 05885, 05886

Unit 1 Summer 2024 series

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Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

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Unit 1 series overview

This was the twelfth series of assessment for this unit. The unit contains a breadth of knowledge assessed across four Learning outcomes (LOs):

- LO1 – Know the effects and benefits of participation in sport and physical activity on the musculoskeletal system.
- LO2 – Know the effects and benefits of participation in sport and physical activity on the cardio-respiratory system.
- LO3 – Know measures of health and wellbeing.
- LO4 – Know trends in participation in sport and physical activity.

As is to be expected, candidates performed better on some Learning outcomes (LOs) than others.

LOs 1 and 2 have significantly more content to teach within the guided learning hours (GLH) than LOs 3 and 4, and this is reflected in the Unit 1 tests in terms of the number of questions associated with each LO.

Candidates who did well on this paper generally:	Candidates who did less well on this paper generally:
<ul style="list-style-type: none"> • scored well on the LO1 questions (Questions 1-16), LO3 questions (Questions 29-34) and LO4 questions (Questions 35-40). 	<ul style="list-style-type: none"> • did not consistently score well in certain LOs or missed marks regularly across the test • may have scored poorly on LO2, which was the weakest area of the paper this series.

Assessment for learning



- Performance on Learning outcome 1 has generally been quite sound over time on these tests but Learning outcome 2 (cardio-respiratory system) is more variable. As noted later in the report, scoring half marks or less on either of these larger Learning outcomes in the test makes achieving the boundary mark quite difficult, so making sure candidates are secure in their knowledge of both of these areas is key.
- Learning outcome 3 often contains several items where knowing the different classification categories is critical, e.g. for BMI or blood pressure. Candidates can be confident of scoring well on Questions 29-34 if they have good knowledge of what the different health measures show so this is an area worth focusing on in preparation and revision.

General comments on the paper

The mean mark for the test was just under 24 marks, with the vast majority of candidates achieving between 17 and 33 marks.

Historically, the mark to achieve the unit has usually been 24 or 25 but has been 23 on occasions. So candidates need to aim for 60%+ of the marks on the test to gain the 'achieved' grade.

Typically, what we are seeing is that performance across the tests is 'patchy'; many candidates perform well enough in some LOs and questions within the test but not consistently enough to get to the 'achieved' boundary mark, with a lot scoring in the late teens and early twenties.

This series, performance on LO1, LO3 and LO4 was quite consistent and comparable to what we have seen previously in the main. As the most recent point of comparison, January 2024 was a strong performance historically and in June 2024, LO1 was slightly less well done but not by that much; LO3 was better this June than in January, but LO4 was not as good as in January but was still done reasonably well (LO4 was very high scoring in January 2024). The big difference was LO2, which candidates performed significantly less well on this June compared to January.

Across the whole cohort this summer, the average score in the LO2 questions was around half marks. As the second largest LO, there are 12 questions; so if a candidate scores 5 or 6 here, they need to get something like 17 or 18 marks minimum across the remaining 28 questions on the test in order to hit the typical boundary mark range of 23-25. So, a drop in performance on one of the larger LO1 or LO2 sections really reduces the margin for error in the rest of the test.

Learning outcome 1: Questions 1 - 16

This LO covers core anatomy and the physiology of the musculoskeletal system.

This was the most successfully answered LO overall this series, marginally ahead of LO3 and LO4.

Candidates did very well on Questions 2, 8, 11 and 14. Questions 7 and 10 proved the most difficult in this section.

Learning outcome 2: Questions 17 - 28

This LO covers the cardio-vascular and respiratory systems. This LO contains content of a technical nature and terminology where component names and functions can be easily confused and, as noted in the general comments, this section was the one candidates found hardest this series.

Questions 20, 22, 24, 27 and 28 were the most successfully answered but even on these a significant minority of candidates did not get them correct; Questions 17 and 26 were the most difficult for candidates to score on in this section.

Learning outcome 3: Questions 29 - 34

This LO relates to health measurements such as BMI, blood pressure and body fat and the candidates need to know normative data and standard values and classifications for some of these elements of the section in order to answer the questions. As noted in the assessment for learning section, if candidates can get more secure with their recall of these categories and classifications, this section of the test is one where many could score 5 or 6 out of 6.

Performance was reasonable on this section, with more candidates getting the mark than not on most questions. Question 34 about blood pressure proved the hardest mark to access for candidates in this section. Blood pressure was also an area which candidates performed less well on in the January 2024 test.

Learning outcome 4: Questions 35 - 40

LO4 is about the trends in participation within sport and physical activity. The candidates do not need to know or to be able to recall statistics themselves (in contrast to LO3) as this data can vary significantly over time and as between sources. With this in mind, the relevant information is provided within the test and the candidates have to be able to correctly respond to the stimulus data which is provided. We try as far as possible to ensure that some degree of interaction and interpretation of the information provided is required for the questions set, rather than that answers can simply be read from the source material.

This section is usually done quite well; performance was good again this series. Questions 35, 37, 39 and 40 were all answered correctly by the vast majority of candidates. Question 36 was more mixed and very few answered Question 38 correctly (the weekend would be two hours on **each of** Saturday **and** Sunday, so the answer is four rather than two hours).

Appendix 1 Questions

Question 1

What bones can be found in the wrist and hand?

A Carpals and metacarpals

B Carpals and metatarsals

C Tarsals and metacarpals

D Tarsals and metatarsals

[1]

Question 2

What is the main function of the ribs?

A Move the arms

B Move the shoulders

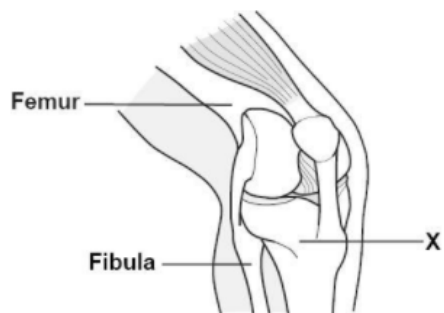
C Protect the abdominals

D Protect the lungs

[1]

Question 3

This is an image of the knee joint.



What is the bone labelled **X**?

A Clavicle

B Patella

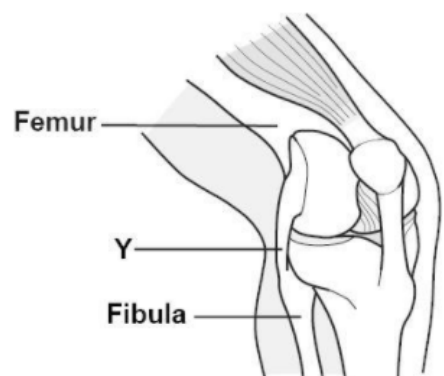
C Tibia

D Ulna

[1]

Question 4

This is an image of the knee joint.



What is the connective tissue labelled **Y**?

A Capsule

B Cartilage

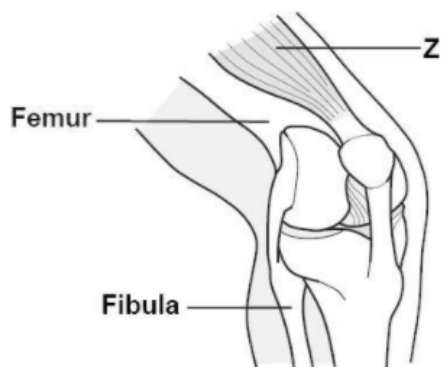
C Ligaments

D Tendon

[1]

Question 5

This is an image of the knee joint.



What is the muscle labelled **Z**?

A Gastrocnemius

B Latissimus dorsi

C Quadriceps

D Trapezius

[1]

Question 6

What movement does the knee joint allow?

A Abduction

B Adduction

C Flexion

D Rotation

[1]

Question 7

What is the part of the joint that holds the synovial fluid?

A Capsule

B Cartilage

C Ligament

D Tendon

[1]

Question 8

What does having an increased bone density mean?

A Bones become elastic and can stretch further

B Bones become fatigue resistant and less chance of tiring

C Bones become stronger and less likely to break

D Bones become weaker with higher risk of osteoporosis

[1]

Question 9

Which of the following is **not** a gliding joint?

A Foot

B Hand

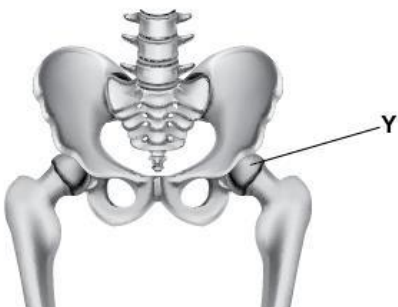
C Thumb

D Vertebrae

[1]

Question 10

The image shows part of the human skeleton. The joint labelled **Y** is the hip joint.



What movement does the hip joint allow?

A Abduction, adduction, flexion, extension and rotation

B Abduction and adduction only

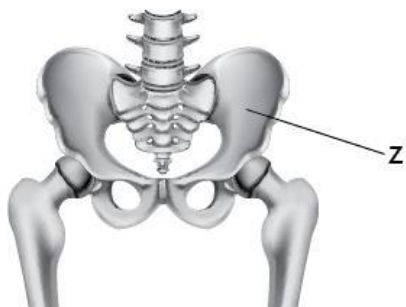
C Flexion and extension only

D Rotation only

[1]

Question 11

The image shows part of the human skeleton.



What is the bone labelled **Z**?

A Cranium

B Pelvic girdle

C Radius

D Scapula

[1]

Question 12

Which of the following is a main function of the skeleton **and** muscles?

A Movement

B Protects internal organs

C Stores glycogen

D Stores minerals

[1]

Question 13

This is an image of some of the muscles found at the back of the body.



What are the muscles labelled **Y**?

- A
- B
- C
- D

[1]

Question 14

This is an image of some of the muscles found at the back of the body.



What are the muscles labelled **Z**?

- A
- B
- C
- D

[1]

Question 15

Complete the following sentence.

A function of the skeleton is to store _____.

A Carbon dioxide

B Lactic acid

C Minerals

D Oxygen

[1]

Question 16

What type of joint is found in the wrist?

A Condylloid

B Hinge

C Pivot

D Saddle

[1]

Question 17

What component of the heart receives blood from the vena cava?

A Aorta

B Atria

C Valves

D Ventricles

[1]

Question 18

Which **one** of the following is a component of blood?

A Capillaries

B Carbon dioxide

C Oxygen

D Plasma

[1]

Question 19

What is the function of the epiglottis?

- A Expels carbon dioxide
- B Gives structure to the trachea
- C Prevents food from entering the airway
- D Removes waste from the lungs

[1]

Question 20

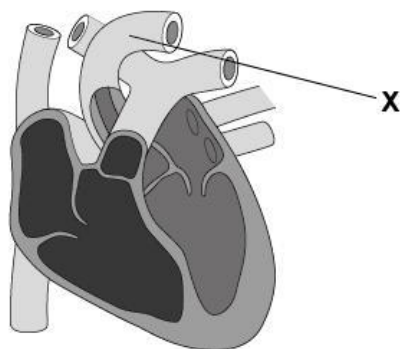
Which **one** of the following are respiratory muscles?

- A Abdominals
- B Biceps
- C Intercostals
- D Trapezius

[1]

Question 21

This image shows parts of the heart.



What is the part labelled **X**?

A Aorta

B Atria

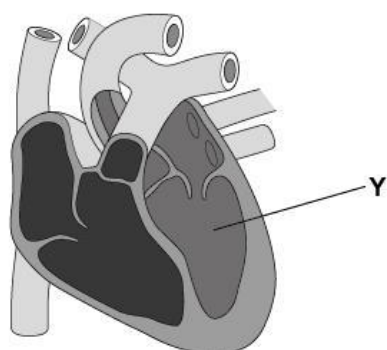
C Valves

D Vena cava

[1]

Question 22

This image shows parts of the heart.



What is the part labelled **Y**?

A Artery

B Atria

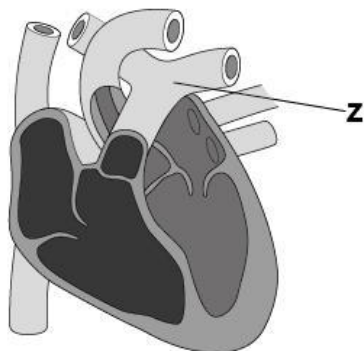
C Vein

D Ventricle

[1]

Question 23

This image shows parts of the heart.



What is the part labelled **Z**?

A Pulmonary artery

B Pulmonary vein

C Valve

D Vena cava

[1]

Question 24

Which of the following is a function of the cardiac system?

A Transports carbon dioxide to muscles

B Transports energy to muscles

C Transports oxygen to muscles

D Transports waste to muscles

[1]

Question 25

Where does gaseous exchange take place?

A Alveoli

B Bronchi

C Pharynx

D Ribs

[1]

Question 26

What does an increase in cardiac output mean?

A The heart pumps less blood every beat

B The heart pumps less blood every minute

C The heart pumps more blood every beat

D The heart pumps more blood every minute

[1]

Question 27

What is the health benefit of reducing asthma symptoms?

- A Airways in the lungs are widened
- B Body fat percentage is increased
- C Cardiac output is decreased
- D Reduced risk of atherosclerosis

[1]

Question 28

What does CHD stand for?

- A Capillary heart disease
- B Cardio heart disease
- C Cavity heart disease
- D Coronary heart disease

[1]

Question 29

What is the average resting heart rate?

- A 60–100 beats per day
- B 60–100 beats per hour
- C 60–100 beats per minute
- D 60–100 beats per second

[1]

Question 30

What test can measure lung capacity?

- A Blood pressure
- B BMI
- C Peak flow
- D VO2 max

[1]

Question 31

The table shows BMI measurements.

Name	BMI
Person A	17.7
Person B	22

What weight classification is person A?

- A

Healthy weight
- B

Morbidly obese
- C

Underweight
- D

Very obese

[1]

Question 32

The table shows BMI measurements.

Name	BMI
Person A	17.7
Person B	22

What weight classification is person B?

- A

Healthy weight
- B

Morbidly obese
- C

Underweight
- D

Very obese

[1]

Question 33

What is lung capacity?

- A Volume of air in lungs after maximum expiration
- B Volume of air in lungs after maximum inspiration
- C Volume of air in lungs after minimum expiration
- D Volume of air in lungs after minimum inspiration

[1]

Question 34

A blood pressure reading of 100/70 would be considered to be _____.

- A Ideal
- B Low
- C Normal
- D High

[1]

Question 35

Which **one** of the following is **not** a cultural barrier to sport and participation?

- A Ethnicity
- B Gender
- C Income
- D Religious beliefs

[1]

Question 36

Which **one** of the following can help visually impaired people access a leisure centre?

- A Braille signage
- B Hearing loop
- C Mechanical hoists
- D Passenger lifts

[1]

Question 37

Which **one** of the following is **not** a way of increasing awareness of a physical activity?

- A

Advertising campaign
- B

Discounts and promotions
- C

Targeted marketing
- D

Work restrictions

[1]

Question 38

The table shows a timetable for a swimming pool.

Times:	Monday – Friday	Saturday and Sunday
8 am – 10 am	Children's swim	Swimming lessons
10 am – 12 noon	School swimming	Swimming lanes
12 noon – 2 pm	Casual swim (Adults only)	Aqua fit swim (Adults only)
2 pm – 4 pm	Swimming lessons (Under 5s)	Swimming for Fitness (Women only)
4 pm – 6 pm	Swimming for the over 50s	Swimming for the over 50s
6 pm – 8 pm	Men's swimming gala competition	Women's swimming gala competition

How many hours is aqua fit swim available for over the weekend?

- A

1
- B

2
- C

3
- D

4

[1]

Question 39

The table shows a timetable for a swimming pool.

Times:	Monday – Friday	Saturday and Sunday
8 am – 10 am	Children's swim	Swimming lessons
10 am – 12 noon	School swimming	Swimming lanes
12 noon – 2 pm	Casual swim (Adults only)	Aqua fit swim (Adults only)
2 pm – 4 pm	Swimming lessons (Under 5s)	Swimming for Fitness (Women only)
4 pm – 6 pm	Swimming for the over 50s	Swimming for the over 50s
6 pm – 8 pm	Men's swimming gala competition	Women's swimming gala competition

Which group of people do not have any specific swimming time?

- A
- B
- C
- D

[1]

Question 40

Providing a hoist to help wheelchair users to get in and out of the swimming pool is an example of:

- A
- B
- C
- D

[1]

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