

AS Re-sit Paper

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OCR ExamBuilder process constraints mean you may see slight differences between this paper and the original.

Candidates answer on the Question Paper.

OCR supplied materials:

Additional resources may be supplied with this paper.

Other materials required:

- Pencil
- Ruler (cm/mm)

Duration: 75 mins

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Where space is provided below the question, please write your answer there.
- You may use additional paper, or a specific Answer sheet if one is provided, but you must clearly show your candidate number, centre number and question number(s).

INFORMATION FOR CANDIDATES

- The quality of written communication is assessed in questions marked with a pencil or an asterisk.
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **70**.

Answer **all** the questions.

1. Fig. 1 shows a person using a resistance machine to increase leg strength.

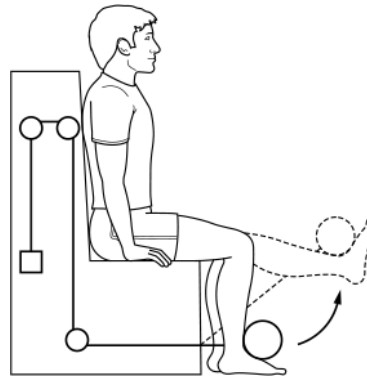


Fig. 1

Complete the table below for the knee joint moving in the direction of the arrow.

Joint	Synovial Joint Type	Movement	Agonist	Antagonist
Knee				

[4]

2. Explain, using sporting examples, how the predominance of each muscle fibre type in performers may impact on their performance.

[4]

3.

(i) Give an average value for cardiac output for a performer at rest and during maximal exercise.

[2]

(ii) Describe how the conduction system of the heart controls the systolic phase of the cardiac cycle.

[4]

4.

(i) Outline how oxygen is transported in the blood.

[2]

(ii) Describe the process of oxygen diffusion at the alveoli during exercise.

[3]

5(a). Describe the mechanics of breathing for inspiration during exercise.

[5]

(b). Describe intrinsic control of the heart during exercise.

[4]

6. Define the term aerobic capacity.

Age and gender are two factors that affect VO_2 max. Identify **three** other factors that affect an individual's VO_2 max.

[4]

7. Three males performed a sit and reach test, after carrying out a suitable warm up.

Table 1 shows their results.

Table 1

Subject	Age	Sit and reach score (cm)	Rating
Sedentary individual	20	5	Average
Rugby player	30	–	Below average
Gymnast	16	38	Outstanding

Discuss possible reasons for the different sit and reach scores.

[4]

8. **Table 2** shows the weekly breakdown of a hockey player's diet.

Table 2

Component of diet	Weekly intake
Carbohydrates	50%
Fats	40%
Proteins	10%
Vitamins and minerals	Well below recommended guidelines
Fruit and vegetables	Below recommended guidelines

Evaluate the potential impact of this diet on the player's health and physical performance. Recommend changes that should be made to the intake of carbohydrates, fats and proteins.

[5]

9. Identify **two** types of ergogenic aids that would benefit an aerobic athlete and explain how they enhance performance.

[5]

10. Define 'maximum strength' and identify a method to evaluate it.

[2]

11(a). An elite marathon runner will have a very high VO_2 max.

(i) Describe how age and gender can affect VO_2 max.

[2]

(ii) Evaluate the importance of a high VO_2 max for an elite footballer.

[3]

(b). A gymnast is encouraged to follow a healthy, balanced diet by his coach.

(i) Explain how carbohydrates, vitamins and fibre in the gymnast's diet support training and performance.

[3]

(ii) Assess the possible long term effects on the gymnast if he regularly follows a diet that is high in fat and low in proteins.

[2]

12. Rugby union players, like most sports performers, will aim to minimise the risk of injury during a game.

(i) Describe **three** intrinsic risk factors associated with contact sports such as rugby union.

[3]

(ii) During a rugby union game, one of the players is suspected to be suffering from concussion. Explain how a coach should respond to this injury to prevent the possibility of further injury to the player.

[3]

13. Identify **two** types of strength.

Describe a method used to measure each type.

[4]

14. Name **one** agonist and **one** antagonist at the ankle joint at the point of take-off during a vertical jump.

[2]

END OF QUESTION PAPER