

Centre No.						Paper Reference						Surname	Initial(s)	
Candidate No.						1	8	2	7	/	0	1	Signature	

Paper Reference(s)

1827/01

Edexcel GCSE

Physical Education

Paper 1

Thursday 14 May 2009 – Morning

Time: 1 hour 45 minutes

Examiner's use only

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Team Leader's use only

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HA002513373

Materials required for examination

Nil

Items included with question papers

Nil

Question Number	Leave Blank
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Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature. Check that you have the correct question paper. Answer ALL the questions. Do not use pencil. Use blue or black ink. For Section ONE: For each question, choose an answer, A, B, C or D, and put a cross in the box (⊗). Mark only one answer for each question. If you change your mind about an answer, put a line through the box (⊗) and then mark your new answer with a cross (⊗). Write your answers to Sections TWO and THREE in the spaces provided.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2). There are 17 questions in this question paper. The total mark for this paper is 150. There are 32 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

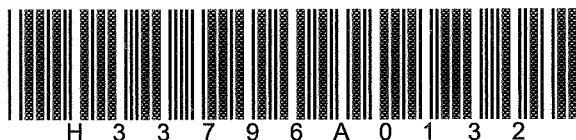
You are reminded of the importance of clear English and orderly presentation in your answers.

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H 3 3 7 9 6 A 0 1 3 2

Turn over

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SECTION ONE

Answer ALL the questions.

For each question, choose an answer, A, B, C or D, and put a cross in the box (☒). Mark only one answer for each question. If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

e.g.: Mark the box like this:

If you change your mind, mark the boxes like this:

<input type="checkbox"/>	A
<input type="checkbox"/>	B
<input checked="" type="checkbox"/>	C <i>This shows your answer</i>
<input type="checkbox"/>	D

<input checked="" type="checkbox"/>	A <i>This shows your final answer</i>
<input type="checkbox"/>	B
<input checked="" type="checkbox"/>	C <i>First answer</i>
<input type="checkbox"/>	D

1. (a) Which of the following is a correct definition of cardiovascular fitness?

- A a long-term benefit of exercise
- B the ability to exercise the entire body for long periods of time
- C the ability to use voluntary muscles many times without getting tired
- D an effect of regular training.

(1)

(b) Which of the following is a correct statement about the training principle 'Moderation'?

- A the performer is watched and judged in a competition
- B the performer ensures that they have a balanced diet
- C the performer ensures that they do enough training to have an effect, but that they do not over-train
- D the performer follows a training programme that will result in a gymnastic performance achieving a perfect score from the judges.

(1)



(c) Figure 1 shows a sprinter at the start of a race.

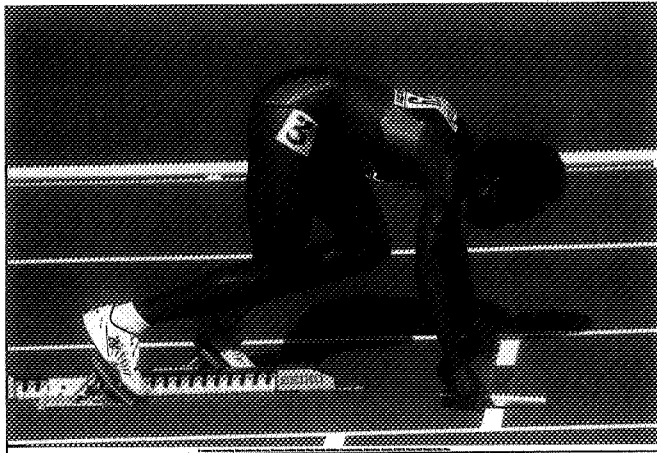


Figure 1

Which of the following is an example of an essential component of health-related exercise for the sprinter?

- A reaction time
- B cardiovascular fitness
- C power
- D muscular strength.

(1)

(d) Which of the following statements describes a verruca?

- A a fungus that looks like a small black dot on the foot
- B a skin infection causing flaky, itchy skin
- C a virus on the sole (bottom) of the foot
- D a fungus that prevents you from swimming.

(1)

(e) Which of the following statements is a benefit of a cool down?

- A increases the production of lactic acid
- B reduces the risk of muscle stiffness after exercise
- C further increases blood flow to the muscles immediately after exercise
- D reduces the chance of injury during the activity.

(1)



(f) Which of the following would result in cardiopulmonary resuscitation (CPR) being given to a performer?

- A the performer has been knocked unconscious by a blow to the head during the game
- B the performer is not breathing
- C the performer is recovering and needs to keep their airways open
- D the performer has no pulse.

(1)

(g) Which of the following is the correct statement about semi-lunar valves?

- A they allow blood to flow into the heart
- B they allow blood to flow out of the heart
- C they allow blood to flow into the right atrium
- D they allow blood to flow into the right ventricle.

(1)

(h) Which of the following is the correct definition of the term overweight?

- A having weight in excess of normal
- B having weight that makes you obese
- C being overfat
- D weighing 6 stone more than you should.

(1)

(i) The humerus is a long bone. Which of the following statements correctly identifies a function of the humerus and its associated advantage to the performer in the statement?

- A a hockey player can reach further to hit the ball as the humerus is a long bone
- B a footballer can kick the ball harder due to the length of the humerus
- C the humerus acts as a lever so a hockey player can apply more force to the ball
- D the humerus protects the footballer from injury.

(1)



Leave
blank

(j) Which of the following muscles adduct the upper arm at the shoulder as a swimmer moves his arms in preparation for a dive from the starting blocks?

- A deltoids
- B trapezius
- C pectorals
- D biceps.

(1)

Q1

(Total 10 marks)

TOTAL FOR SECTION ONE: 10 MARKS



SECTION TWO

Answer ALL the questions. Write your answers in the spaces provided.

2. (a) Miss Smith teaches Physical Education (PE). Through her teaching she helps her pupils develop an aesthetic appreciation of movement. Explain the term 'aesthetic appreciation'.

.....

(1)

- (b) In PE theory lessons, Miss Smith explains the reasons for taking part in physical activity. Complete the table below by identifying a

- (i) social benefit of exercise
- (ii) physical benefit of exercise
- (iii) mental benefit of exercise.

for someone still at school and someone who is at work.
 Give a different example of each type of benefit for each person.

Type of benefit	Benefit for someone at school	Benefit for someone at work
(i) SOCIAL		
(ii) PHYSICAL		
(iii) MENTAL		

(6)

(Total 7 marks)

Q2



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Turn over for Question 3



3. Figure 2 shows performers engaging in physical activity.



Activity 1



Activity 2



Activity 3

Figure 2

(a) (i) Which of the following is the correct statement?
Put a cross in the correct box.

- A the performers in activity 1 are the fittest
- B the performer in activity 2 is the fittest
- C the performer in activity 3 is the fittest
- D we cannot tell which performer is the fittest.

(1)

(ii) Explain your answer to (i) above.

.....

.....

.....

.....

(2)



(b) Complete the table below.

- (i) Name an aspect of health-related exercise that is important to ALL the performers in Figure 2.

(i) Aspect of health-related exercise important to all the performers in Figure 2	
---	--

(1)

- (ii) Give an example of how each sports performer uses this component of health-related exercise in their activity.

(ii)	Example of use to improve performance
Performer in Activity 1	
Performer in Activity 2	
Performer in Activity 3	

(3)

Q3

(Total 7 marks)

4. (a) Name a **different** component of skill-related fitness to complete each of the following statements:

- (i) Basketball players need this in order to dodge around their opponents

.....

(1)

- (ii) A good allows the runner to begin to move as soon as the gun sounds.

(1)

- (iii) Footballers need good to remain upright when they are being physically challenged for the ball.

(1)



(b) Complete the table below.

- (i) Name **two** more components of skill-related fitness that you have not already mentioned in (a).
- (ii) Name an activity within a sport where **both** components of skill-related fitness are important.
- (iii) Explain why each component is important in your selected activity.

(i) Component of skill-related fitness	
1	
2	

(2)

(ii) Activity where both components are important	
---	--

(1)

(iii) Why component 1 is important	
Why component 2 is important	

(2)

(Total 8 marks)

Q4



5. Complete the following statements about the principles of training.

(a) The principles of training are used to improve fitness. Over a period of time the performer can improve fitness by working in the training sessions.

This relates to the training principle called (2)

(b) The training principles of and should be applied to ensure that the performer is not injured as a result of training. (2)

(c) If the performer does become injured they are likely to experience the principle of (1)

Q5

(Total 5 marks)



6. Shannon represents his club at gymnastics. As part of his programme to improve his fitness he attends circuit training sessions. The exercises shown in the box below are all stations that could be included in a circuit.

press ups	sit ups	squat thrusts
shuttle runs	trunk twists	lay up shots
skipping	pull ups	bowling at a target
dribbling a ball between cones	chest passes against a wall	

Complete the table below.

- (i) Select the three stations that would be most appropriate for Shannon, who is a gymnast.
- (ii) Explain why you have selected each station. Each explanation must relate to a different aspect of fitness.

(i) Selected station for gymnast from box above	(ii) Why the station is relevant to improving the gymnast's fitness
1	
2	
3	

(Total 6 marks)

Q6



7. (a) A balanced diet consists of seven nutritional requirements; three are listed in the box below.

Name the four remaining nutritional requirements of a balanced diet.

Protein
Water
Fats

(i) (1)

(ii) (1)

(iii) (1)

(iv) (1)

(b) Briefly explain the role of the following when undertaking physical activity.

(i) Water (1)

(ii) Fats (1)

(c) What is the role of protein and how does this help the performer?

Role

Advantage to performer (2)



(d) Performers will have different diets depending on their activity.
Why is it important that performers do not overeat for their activity?

.....
.....
(1)

(e) A performer's weight will vary due to several factors.
State three factors other than diet that will affect how much a performer will weigh.

- (i) (1)
- (ii) (1)
- (iii) (1)

(Total 12 marks)

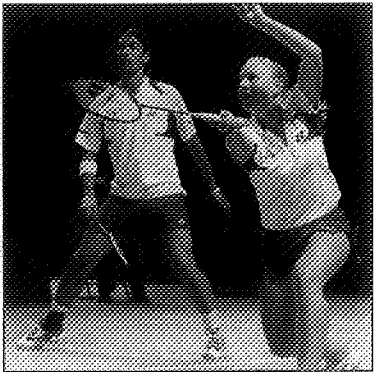
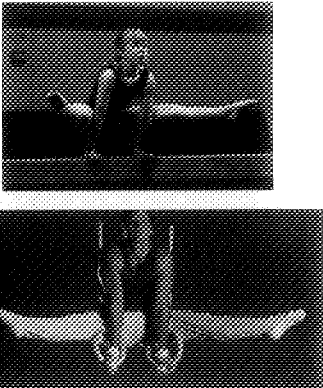

Q7



8. Competitions are normally balanced by the organisers. Complete the table below.

(a) State whether or not the competitions are balanced by answering yes or no.

(b) Explain how the competition is or is not balanced.

Type of competition	(a) Balanced? Yes/No	(b) Explanation
<p>Mixed doubles badminton match</p> 		
<p>Gymnastic competition (men vs women)</p> 		
<p>Heavyweight boxing match</p> 		

(Total 6 marks)

Q8



9. Tournament organisers and officials attempt to minimise risk to performers, however sports injuries do happen. An example is given in the shaded area in the table below. Two other common sports injuries are stated in the table. Complete the table.

- (a) Describe each of the injuries stated in the table.
- (b) Give a specific sporting example of each type of injury and state why it might have occurred.

Sports Injury	(a) Description of injury	(b) Example from sport and why the injury may have occurred
Fracture	A fracture is a break or crack in a bone	Fractured shin as a result of direct force from being kicked in football
Sprain	A sprain is a	
Strain	A strain is a	

(4)

- (c) Both of these sports injuries should be treated using R.I.C.E. What do the letters R.I.C.E. stand for?

.....

.....

(1)

Q9

(Total 5 marks)



10. Circle the components, from the box below, that make up the cardiovascular system.

- | | | |
|------------------|---------------------|-------------------|
| skeletal muscles | brain | heart |
| lungs | blood | oxygen |
| alveoli | blood vessels | voluntary muscles |
| | involuntary muscles | |

Q10

(Total 3 marks)

11. (a) Complete the following statements about blood.

(i) Red blood cells carry to the working muscles. (1)

(ii) Carbon dioxide levels in the pulmonary artery are than the levels of carbon dioxide in the pulmonary vein. (1)

(b) Explain the role of platelets and how they could help a sports performer in a contact sport such as rugby.

.....
.....
.....
.....

(2)

Q11

(Total 4 marks)



12. (a) Complete the statement.

During exercise your breathing rate in order to take in more air.

(1)

(b) Name the two most important gases contained in inspired air in terms of impact on performance.

Gas 1

Gas 2

(2)

(c) Regular training can affect tidal volume. Explain the term 'tidal volume'.

.....
.....
.....
.....

(1)

(d) What term is being described in the statement below?

'The maximum amount of air that can be forcibly exhaled after breathing in as much as possible.'

.....

(1)

(Total 5 marks)

Q12



13. The following are regions or bones of the vertebral column.

Thoracic	Sacral	Atlas
Lumbar	Cervical	Axis

(a) Place these regions of the vertebral column in the order they appear after the bones Atlas and Axis.

Atlas

Axis

- 1
- 2
- 3
- 4

(4)



(b) Complete the table below. Select four of the bones or regions listed in box A and match these to the functions identified in box B. You may only use the functions once.

Thoracic	Sacral
Atlas	Lumbar
Cervical	Axis

Box A

<p>Functions of vertebral column</p> <p>A. Muscle attachment</p> <p>B. Transmit body weight to pelvic girdle</p> <p>C. Allows shaking motion of head</p> <p>D. Protection of vital organs</p> <p>E. Supports the weight of the head</p> <p>F. Allows nodding action</p>
--

Box B

Bone/region of vertebral column from box A		Function from box B
1		
2		
3		
4		

(4)

(Total 8 marks)

Q13



14. Figure 3 shows the bones of the shoulder joint and some muscles of the body (front view).

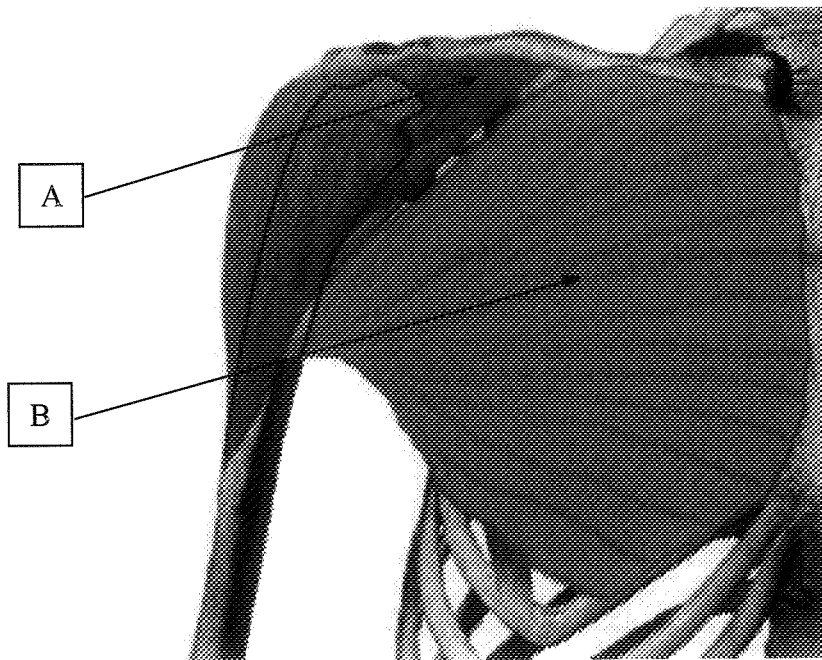


Figure 3

(a) Name the bones that form the shoulder joint.

.....
..... (2)

(b) Name the two muscles labelled A and B on Figure 3.

A
B (2)

(Total 4 marks)

Q14

TOTAL FOR SECTION TWO: 80 MARKS



SECTION THREE

Answer ALL the questions. Write your answers in the spaces provided.

15. Owais and his friend Melvin are 15 and are choosing their practical options for their GCSE Physical Education examination. Owais selects gymnastics as one of his activities, whilst Melvin selects rock climbing. Both boys enjoy the physical challenge of their activities.

(a) (i) Explain the term 'physical challenge'.

.....
.....
(1)

(ii) Give an example of an activity (other than gymnastics or rock climbing) that could also provide a physical challenge for the performer.

.....
(1)

(iii) Explain how your choice of activity, in (ii), could provide a physical challenge.

.....
.....
.....
(1)



- (b) (i) Both Owais and Melvin's chosen activities involve risk.
 Complete the table below.
- * Give an example of a potential risk associated with each type of activity.
 - * Describe a way of reducing each potential risk.
- You may only use each type of risk once.

Activity	Potential Risk	Risk reduced by
Gymnastics		
Rock climbing		

(4)

- (ii) Other than gymnastics, name two different sporting activities that are considered to have less risk than rock climbing.
 Explain the risks associated with these activities.
 Make sure you state a different type of risk for each activity.

Activity 1

Risk associated with activity 1

.....

Activity 2

Risk associated with activity 2

.....

(4)



- (c) Owais and Melvin are both 'fit' for their activities. Owais the gymnast has a typical mesomorph body type, whilst Melvin the rock climber would be categorised as an ectomorph.

Complete the table below

- (i) describe each body type
- (ii) explain how the body type could aid the boys' performance in their chosen activities.

Body Type	(i) Description of body type	(ii) How their body type could aid their performance in their chosen activities
Mesomorph (gymnast)		
Ectomorph (rock climber)		

(4)

- (d) (i) Some elite gymnasts have been found guilty of taking drugs to improve their performance. If a male gymnast took an anabolic steroid what aspect of fitness would he hope to improve?

..... (1)

- (ii) Identify two possible health risks of taking anabolic steroids.

Health risk 1

.....

Health risk 2

.....

(2)



(iii) Apart from the health risks state ~~two~~ reasons why sports performers should not take drugs to improve their performance.

Reason 1

.....

.....

Reason 2

.....

.....

(2)

Q15

(Total 20 marks)

16. Penny, Husnara and Reena all play sport for their school.

Each uses a different training method to improve their fitness for their sport.

(a) Explain the term 'fitness'.

.....

.....

.....

(1)

(b) (i) Explain why the girls would use different methods of training from each other to improve their fitness.

.....

.....

.....

(1)

(ii) What principle of training are they applying by using a training method that is relevant to them and their sport?

.....

(1)



(c) (i) Penny is an athlete and uses interval training. Name an Athletics event where this method of training would be most commonly used to improve performance.

..... (1)

(ii) Explain the main characteristics of interval training.

.....
.....
.....
..... (3)

(iii) What is the main difference between continuous training and interval training?

.....
.....
.....
..... (1)

(iv) Husnara uses continuous training. What type of Athletics event might Husnara be training for?

..... (1)

(v) What muscle fibre type is Husnara most likely to develop through continuous training?

..... (1)

(vi) Name the method of training that Reena will use if she needs to train for a variety of different sports.

..... (1)



(d) Changes occur to the performer's body as a result of immediate exercise and regular training. Regular training can also lead to some long-term health benefits.

The table below relates to the effects of exercise and training on different body systems. Complete the table.

(i) Fill in the blanks in columns A, B and C.

(ii) Tick the option in column D that matches the type of effect being described. For example, increased maximum cardiac output is an effect of regular training.

A	B	C	D		
			Tick ONE of the following columns for each effect		
Body system affected	Effect	Explanation of effect	Immediate effect	Effect of regular training	Long-term benefit
Skeletal		Less likely to suffer from osteoporosis			
		Increased maximum cardiac output		✓	
	Reduction in resting blood pressure				
Circulatory	Increased heart rate				

(9)

(Total 20 marks)

Q16

17. (a) Figure 4 shows a high board diver in flight. Complete the following statements about the diver.

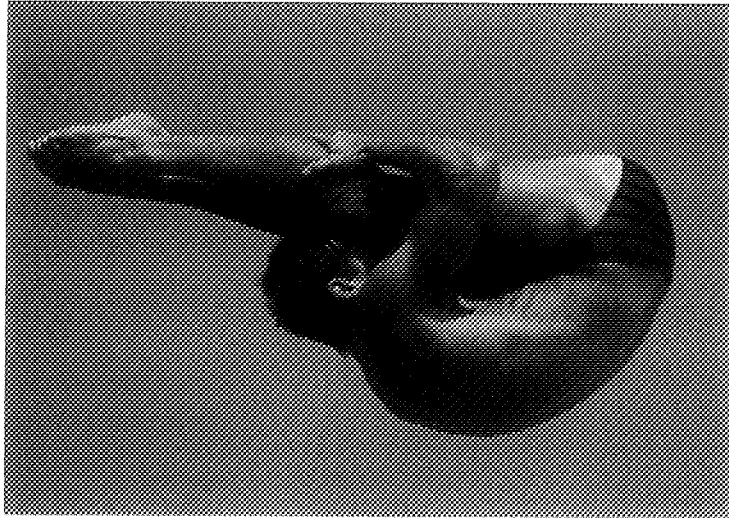


Figure 4

(i) The high diver has his legs at the knee and folded his body by at the joint to allow him to bend forward.

(3)

(ii) The diver's arms are at the elbow.

The muscle that contracts to bring about this movement is the

(2)

(b) Movement occurs at the joints. The hip and shoulder provide the greatest range of movement in the body. What type of synovial joint are the hip and shoulder?

.....

(1)



(c) Figure 5 is a diagram of a joint.

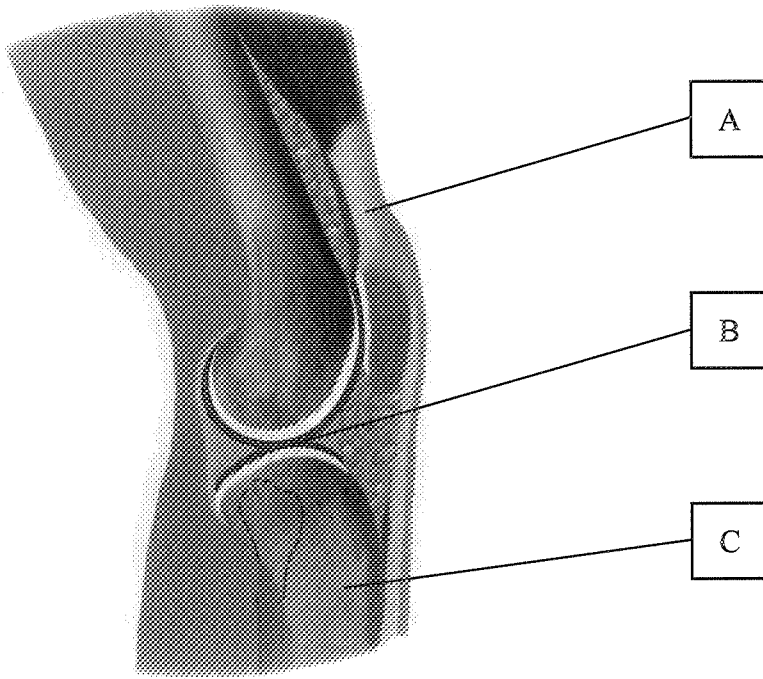


Figure 5

(i) What is the name and type of synovial joint shown in Figure 5?

Joint name

Joint type

(2)

(ii) Name the components of the joint labelled A, B and C in Figure 5.

A

B

C

(3)



(d) During training the diver in Figure 6 makes a mistake in her take-off for her dive and hits the board.

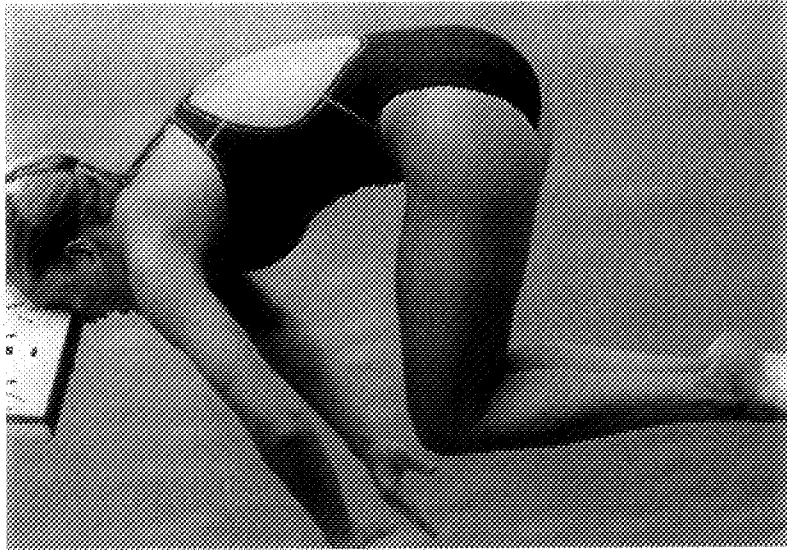


Figure 6

Complete the table below.

- (i) Name **two** different types of injury the diver could sustain as a result of this accident.
- (ii) Describe a sign/symptom of these injuries.

(i) Injury		(ii) Sign/symptom of injury
1		
2		

(4)



(e) DRABC is used to help first-aiders remember the action they should take if they are called to help a casualty.
Complete the table

- (i) State the missing stages of DRABC indicated by the letters D and A.
- (ii) State the actions required by a first-aider for the remaining stages of DRABC if they were helping the diver in Figure 6.

DRABC	(i) What each letter stands for	(ii) Action required applied to the diver
D		Remove diver from the pool
R	Response	
A		
B	Breathing	Check that the swimmer is breathing
C	Circulation	

(5)

(Total 20 marks)

Q17

TOTAL FOR SECTION THREE: 60 MARKS

TOTAL FOR PAPER: 150 MARKS

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