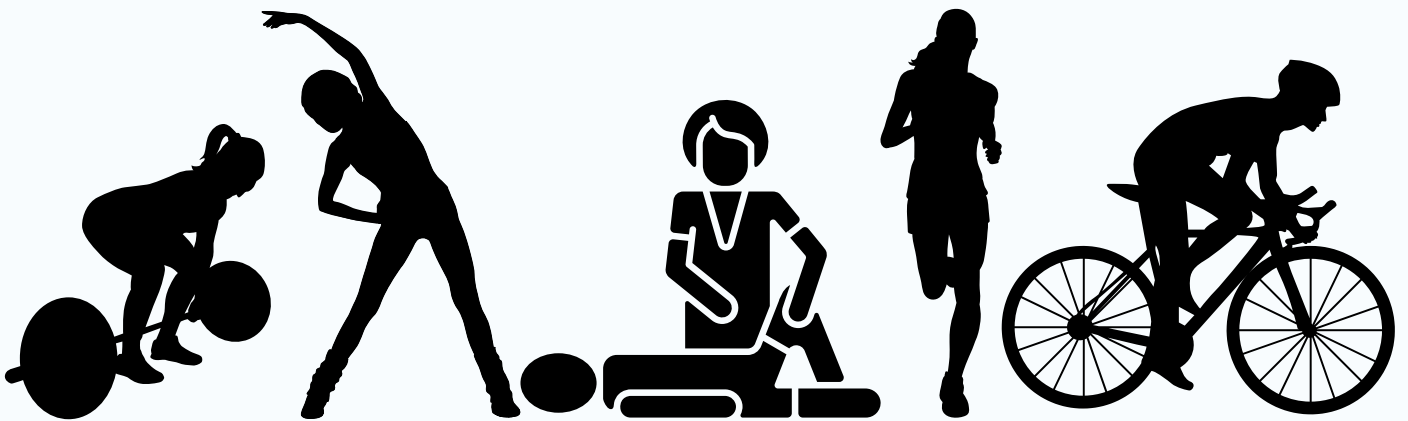


An Introduction to CNATS Sports Science 2024-2025



The PE Classroom

Welcome to Level 1/Level 2 Cambridge National in Sport Science! This booklet is designed to give you an outline of the format of the course. You should come back to this booklet over the next couple of years to remind yourself on everything from practical activities, to how to answer questions.

The Course

This course has been created for students wanting to develop applied knowledge and practical skills in Sport Science. It will prepare you well for further study and careers in Exercise, Physical Activity, Sport and Health sector.

How You'll Be Assessed:

- Paper 1 - 70 marks, 1 hr 15 (40% of qualification)
- Set Assignment - 80 marks, (40% of qualification)
- Set Assignment - 40 marks, (20% of qualification)



Over the next two years or so, you will complete three units:

- One compulsory externally assessed unit (exam) - R180
- One compulsory unit which is assessed using a non-examined assessment (NEA) - R181
- One optional unit from a choice of two which is also assessed using a NEA - R182 or R183



Grading

At the end of the course, you will be awarded one of the following grades:

- L2D* (Level 2 Distinction*), L2D (Level 2 Distinction), L2M (Level 2 Merit), L2P (Level 2 Pass)
- L1D (Level 1 Distinction), L1M (Level 1 Merit), L1P (Level 1 Pass)

Grade Boundaries

Each series, OCR will set grade boundaries through the Awarding process to ensure standards are maintained. This means 'Raw mark' grade boundaries can change between series.

However, each raw mark is converted to a Uniform Mark Scale (UMS) to convert raw marks into uniform marks. These boundaries stay the same every series:

		Max Mark	L2D*	L2D	L2M	L2P	L1D	L1M	L1P	U
R180	UMS	80	72	64	56	48	40	32	24	0
R181	UMS	80	72	64	56	48	40	32	24	0
R182/3	UMS	40	36	32	28	24	20	16	12	0
Overall UMS		200	180	160	140	120	100	80	60	0

R180 (exam)	Max Mark	L2D*	L2D	L2M	L2P	L1D	L1M	L1P	U
Raw marks	70	61	56	49	42	35	28	21	0



Performance Objectives

Your assessments will be designed to test you against Performance Objectives:

Performance Objectives:

PO1 - Recall knowledge, show understanding of concepts

PO2 - Apply knowledge and understanding of concepts

**PO3 - Analyse and evaluate knowledge, understanding
and performance**

**PO4 - Demonstrate and apply sporting skills and processes
relevant to Sport Studies.**

PO1 is only assessed in the exam and PO4 is only assessed in the NEA assessments.

Weightings of performance objectives remain consistent year-on-year. This table shows you what to expect and prepare for:

Performance Objective	Exam	NEA	Overall weighting
PO1	17-21%	0	17-21%
PO2	14-16%	15%	29-31%
PO3	5-7%	18%	23-25%
PO4	0	27%	27%
Overall weighting	40%	60%	100%

R180 - Reducing the Risk of Sporting Injuries

Topic 1 - Different Factors Which Influence the Risk & Severity of Injury

Intrinsic Factors

Extrinsic Factors



Physiological Benefits

Psychological Benefits

Stretching



Topic 2 - Warm Up & Cool Down Routines

Topic 4 - Reducing Risk, Treatment & Rehabilitation of Sports Injuries & Medical Conditions



Response to Injuries

Treating Injuries

Psychological

Impact of Injury



Topic 3 - Different Types & Causes of Sport Injuries

Acute Injuries

Chronic Injuries



Topic 5 - Causes, Symptoms & Treatment of Medical Conditions

Asthma

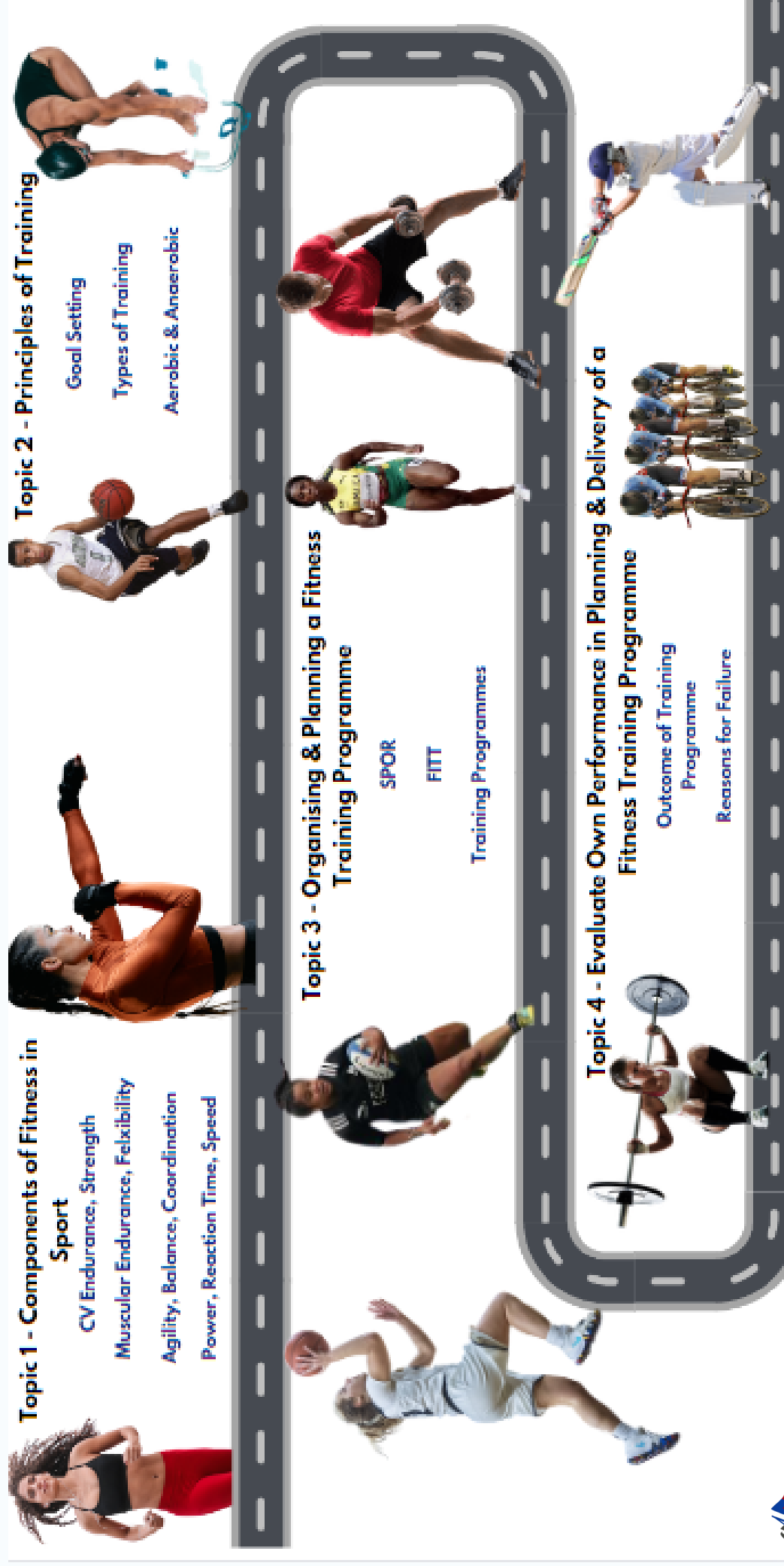
Diabetes

Epilepsy

Sudden Cardiac Arrest



R181 - Applying the Principles of Training

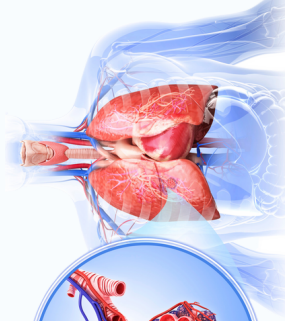
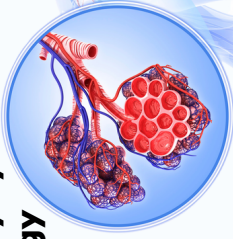


R182 - The Body's Response to Physical Activity (Optional)



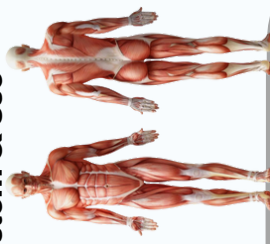
Topic 1 - Cardio-Respiratory System & Use of Technology

The Heart
Gas Exchange
The Lungs
Sports Technology



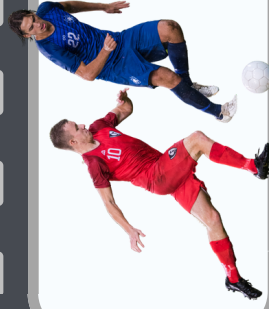
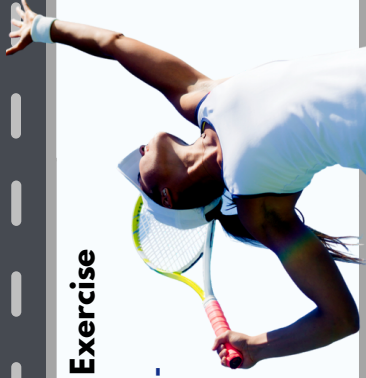
Topic 2 - Musculoskeletal System & Use of Technology

Bones of the Body
Joints
Muscles of the Body
Sports Technology



Topic 3 - Short-Term Effects of Exercise

Short-Term Effects on Cardio-Respiratory System
Short-Term Effects on Musculoskeletal System



Topic 4 - Long-Term Effects of Exercise

Short-Term Effects on Cardio-Respiratory System
Short-Term Effects on Musculoskeletal System



R183 - Nutrition & Sports Performance

(Optional)



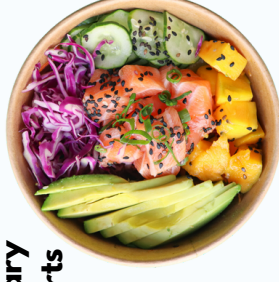
Topic 1 - Nutrients Needed for a Healthy Nutrition Plan

Complex Carbs, Simple Carbs
Fats, Proteins
Vitamins, Minerals
Fibre, Water



Topic 2 - Differing Dietary Requirements For Sports

Calorie Intake
Energy Balance
Carb & Protein Loading
Dehydration



Topic 3 - Balanced Nutrition Plan For Selected

Sports

Individual Factors

Looking at Performance to
Evaluate Diet Plan



Topic 4 - Managing Nutritional Behaviours to Improve Performance

Effects of Overeating
Effects of Undereating
Effects of Dehydration



Non-Examined Assessments

As part of your qualification, you will build a portfolio of evidence for units R181 and R182/3. This will be completed during lesson time and supervised and marked by your teacher.

The units focus on:

R181 - Applying the principles of training: fitness and how it affects skill performance,

R182 - The body's response to physical activity and how technology informs this,

R183 - Nutrition and sports performance.

OCR set assignments are released every year. Make a note of when you are expecting to complete each NEA:

R181 - _____

R182/3 - _____

Each NEA will be based on a different scenario and comprises a series of task relating directly to the scenario. The tasks will be in line with the different topics seen in the road maps (pages 3-5).

Evidence required for each task varies, but will often be either:

- Written reports
- Presentations

For Unit R181, some tasks (e.g. conducting fitness tests) will require an observation record in the form of statements, filmed/photographic evidence.

What's Assessed?

R181

- Conducting a range of fitness tests,
- Understanding of what each fitness test measures,
- Evaluation of each fitness test advantages and disadvantages,
- Designing, planning and evaluating a fitness training programme,
- Interpreting data collected from tests and providing feedback.



R182

- Understanding of how the cardio-respiratory and musculoskeletal systems provide the energy and movements to keep you exercising,
- Understanding of how exercise benefits both systems,
- Understanding how relevant technology assists in measuring changes in both systems.



R183

- Understanding of a healthy, balanced nutrition,
- Consideration of necessity of certain nutrients and their role in effective performance in different sporting activities,
- Production of an appropriate, effective nutrition plan for a performer.



Examined Assessment

Throughout the next couple of years you will spend about 48 hours of lesson time preparing for your examined unit: **Reducing the risk of sport injuries and dealing with common medical conditions.**

This unit will prepare you to take part in physical activities in ways that minimise the risk of injuries occurring. Also, you will know how to react to common injuries that can occur during sport and physical activity, and how to recognise the symptoms of some common medical conditions.

This exam will take 1 hour 15 minutes and is worth 70 marks. It will always be split into the following sections:

- Section A (25 marks)
 - All questions will assess **Performance Objective 1 (PO1)**
 - Mix of multiple choice questions (MCQs), short response and medium response
- Section B (45 marks)
 - Questions will assess **PO1 (5-11 marks), PO2 (24-28 marks) and PO3 (8-10 marks)**
 - Includes short answer, closed response, extended constructed response and extended constructed response using images (extended responses worth 8 marks)

Many questions will be based on scenarios you will have likely encountered. You must answer questions in different ways in order to gain maximum marks. For every question, pay close attention to two aspects:

- Number of marks available
- Wording of the question

If you can learn how to decipher exam questions then this will massively improve your chances of succeeding in your exam.

What's Assessed?

R180 - Reducing the risk of sport injuries and dealing with common medical conditions

- Different factors which influence the risk and severity of injury
- Warm up and cool down routines
- Different types and causes of sports injuries
- Reducing risk, treatment and rehabilitation of sport injuries and medical conditions
- Causes, symptoms and treatment of medical conditions



Command Words

Command words and phrases used in exams will tell you how you should answer the question. These will be similar to questions in your other subjects, so you will quickly get used to them.

Command Word	Definition
Analyse	Separate or break down information into parts and identify their characteristics or elements Explain the pros and cons of a topic and make a reasoned commend Explain the impacts of actions using a logical chain of reason
Annotate	Add information to a table, diagram or graph
Calculate	Work out the value of something
Choose	Select an answer from options given
Circle	Select an answer from options given
Compare and contrast	Give an account of the similarities and differences between two or more items or situations
Complete	Add all the required parts /information to a table, diagram etc.
Create	Produce a visual solution to a problem
Describe	Give an account including all relevant characteristics, qualities or events
Discuss	Present, analyse and evaluate relevant points
Draw	Produce a picture or diagram
Explain	Give reasons for and/or causes of... Use words or phrases such as 'because', 'this means that'...
Fill in	Add all the required parts/ Information to a table, diagram etc.
Identify	Select an answer from options given Recognise, name or provide factors or features
Justify	Give good reasons for offering an opinion or reaching a conclusion
Label	Add all the required parts/information to a table, diagram etc.
Outline	Give a short account, summary or description
State	Give factors or features Give short, factual answers

Multiple-choice Style Question

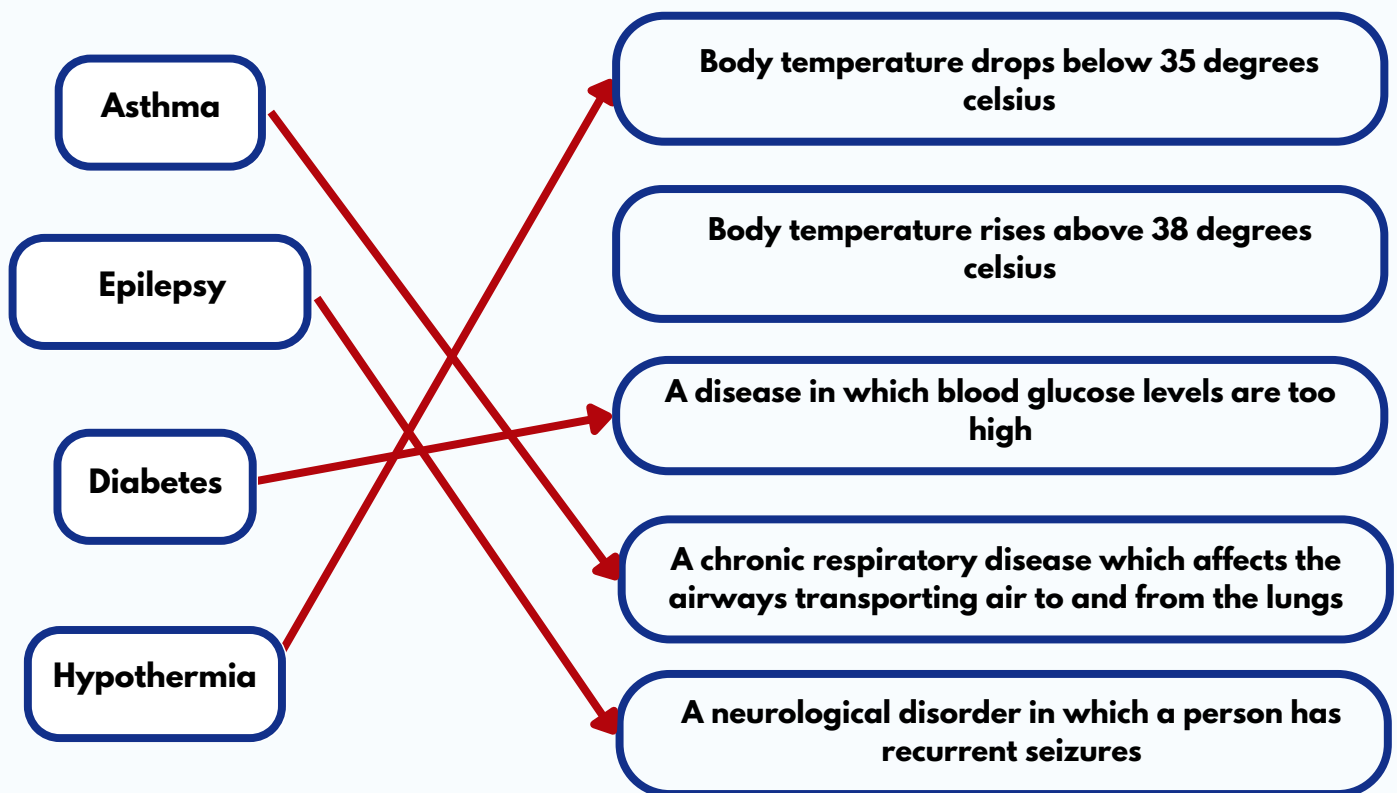
At the start of your Sport Studies exam you will find 'match-up', circle correct responses, 'fill in the gap' and multiple choice questions.

Match-up Questions

This type of question will ask you to match up a set of **key terms** with a **description**. This is shown in the example question below.



Question: Draw lines to match the four medical conditions to the correct description. (4 marks)



Top Tip
Read through each statement several times before drawing any lines. It is easy to get in a muddle answering this type of question!

For each multiple choice question, you will be given a **number of options** and asked to place a **tick** next to the correct answer.

Question: Which of the following is a chronic injury?
(1 mark)

- (a) Strain ☐
- (b) Fracture ☐
- (c) Tendonitis ☒
- (d) Dislocation ☐

Short Exam Questions

1 Mark Questions

These questions can require **1 word** or **1 phrase** within the answer. There is no need for further explanation. Let's take a look at some examples:

Question: A warm-up should begin with which type of activity? (1 mark)

Answer: Pulse-Raiser



This question can be answered using one word only. There is no need to elaborate any further.

Question: What is the definition of the term 'arousal'? (1 mark)

Answer: A physical and mental state of alertness, varying from deep sleep to intense excitement

One word will not be enough to answer this question but a simple statement/definition is all that is required. There is no need to go into further detail.

2-8 Mark Questions

2 - 8 mark questions might ask for the following:

- **Separate points**
- **One point**, followed by an **explanation**

Lets take a look at some examples:

Question: Give two examples of types of stretches which should be included as part of a cool-down (2 marks)

Answer:

- **Maintenance Stretches**
- **Static Stretches**



'State 2' is the important phrase within this question. It is clearly asking for two points and no explanation or further information is required.

Short Exam Questions

Question: Identify three psychological factors which can influence the risk of injury in sport. (3 marks)

Example Answer:

Mark One: Motivation

Mark Two: Anxiety

Mark Three: Aggression



The marks can be achieved for this question by identifying three separate points

Question: Using practical examples, describe two ways that coaching can cause injury in contact sports. (4 marks)

Example Answer:

Mark One: Lack of knowledge of techniques / rules/regulations

Mark Two: For example, a rugby coach who doesn't understand that 'high tackles' are illegal. High tackles can lead to head injuries such as concussion.

Mark Three: Limited experience/no official coaching badges

Mark Four: For example, a boxing coach might not have any official qualifications. This might lead to poor coaching of technique which results in hand injuries such as fractures.

The question here clearly shows that 2 marks will be given for 'points' and another 2 for 'examples'

Question: Using sporting examples, explain how three different extrinsic factors can lead to an increased risk of injury in sport. (6 marks)

Example Answer:

Although this question is worth six marks it can easily be broken down to three separate parts - each including a point and a sporting example

Mark One: Type of Activity

Mark Two: For example, contact sports such as kickboxing can lead to blows to the head that can result in injuries such as concussion

Mark Three: Environmental Factors

Mark Four: For example, if cricket takes place on a slippery surface then this could lead to a bowler falling during their run up. This could result in an injury such as a fracture.

Mark Five: Equipment

Mark Six: For example, in American Football, shoulder pads are worn to protect players from injuries. Without this protective equipment, players could suffer from an injury such as a dislocated shoulder



Extended Exam Question - 8 Marks

In your exam you will have to answer one **extended question**.

This is worth marks and will require **analysis** and **evaluation**.

Understanding how to answer this extended questions can make a huge difference to your overall grade.

The extended question will assess:

PO3 - Analyse and evaluate knowledge, understanding and performance

The question topic may be drawn from any aspect of R180. However, the analysis often involves analysing the risk of injury or medical condition, dependent on a variable.

Sometimes, you will be asked to evaluate - make a judgement or decision about the scenario.

Question

Analyse how both extrinsic and intrinsic factors can influence the risk of different types of injury when participating in the sport of rugby.

In your response, you should include practical examples.



In this question, analysis comes from analysing the extent of the risk of different injuries, dependent on the extrinsic and intrinsic factors.

When answering this question it can easily be broken down into 4 paragraphs:

1. 1 or 2 line introduction
2. Analysis & examples of extrinsic factors
3. Analysis & examples of intrinsic factors
4. Short conclusion/summary

Sample Answer - Level 3 Response: 7-8 Marks

There are a number of extrinsic and intrinsic factors which can influence the risk of different types of injury within the sport of rugby.

Extrinsic factors such 'environmental factors' can influence the risk of injury in rugby. For example, matches can at times take place on 4G artificial surfaces rather than grass. This has been known to heighten the chance of skin damage occurring when making tackles or diving to score a try. Poor or bumpy grass surfaces can also cause an increased risk of injuries such as ankle sprains. Another extrinsic factor which can influence the risk of injury in the sport of rugby is 'coaching'. A coach with limited knowledge or experience will not be qualified to teach the correct tackle technique and this could result in a player experiencing injuries such as concussion or shoulder dislocation. Furthermore, the extrinsic factor of 'equipment' can produce injuries within the sport of rugby. For example, rugby is a contact sport and a gumshield should be worn to protect the teeth from damage. Headgear is also worn by some players to protect against concussion.

An intrinsic factor which can lead to a heightened chance of injury is 'individual variables'. For example if an individual has poor nutrition then this might lead to poor energy release or dehydration. As a result of this, muscle injuries such as cramp or strains may occur. Another individual variable is 'sleep deprivation'. If an individual taking part in sport has not had adequate sleep then this will increase the chance of injury. For example in rugby, a tired participant will be less alert and this will mean that they may go into contact with poor body positioning. This could lead to injuries such as soft tissue damage or concussion. Intrinsic factors also cover 'psychological factors' such as arousal. If arousal levels are too high in the sport of rugby, this could result in a player rushing in to a tackle too aggressively, which could cause injuries such as fractures to their opponent, or even to themselves.

In conclusion, a performer must be aware of the factors that can influence the risk of injury when taking part in sport. If a participant understands the intrinsic and extrinsic factors that can lead to injury, then this will help them to make adequate steps to avoid unnecessary injuries.



Every point made throughout this answer is **explained** with appropriate **examples**

This answer also includes a relevant **introduction** and **conclusion**

This answer is a **level 3** response because it shows:

- A thorough discussion
- Detailed knowledge and understanding
- An analysis of the points made
- Logical reasoning throughout
- A justified conclusion
- A consistent use of appropriate terminology





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