



The EverLearner

National Mock Exams 2024

POWERED BY ExamSimulator

Mark Scheme

CNAT in Sport Science R180:

Reducing the risk of sports injuries and dealing with common medical conditions

Please read before distributing to students.

Purpose of this document

This document and the associated question paper are based on the data analysis performed by The EverLearner Ltd and published within the 2024 infographics. Please, note the following:

- We believe this mark scheme has a very strong association with previous CNAT Sport Science R180 sample assessment material in relation to command terms, skills, extended writing requirements and topics.
- However, this is categorically NOT a mark scheme for a predicted paper. No one can accurately predict an exam paper and we make no claim to this end.
- It is vital that you only use this document internally in your school/college. Publishing the document online or sharing it in any other way is strictly prohibited as this will undermine the potentially educational experiences of students in other schools/colleges.
- Finally, please check the publication dates of the model answers for this paper as well as the associated revision sessions in May.

This mark scheme contains:

- Copy of each question for reference
- Marking guidance where appropriate
- Marking points containing alternative acceptable responses plus relevant assessment objective

How should schools use this mark scheme?

The mark scheme has been constructed specifically for the exam paper used in The EverLearner's National Mock Exams from 2024. The model answers will be available in early April and many of these questions will be discussed in the live revision show provided by James Simms (Tuesday, 7th of May, 15:00-16:30 on [youtube.com/TheEverLearner](https://www.youtube.com/TheEverLearner)).

All questions/mark schemes are available on ExamSimulator. Please note, there are hundreds of additional questions and mark schemes on ExamSimulator covering the IGCSE PE topics and skills. Within the platform, the teacher is assisted with the marking and full diagnostic feedback is also provided. ExamSimulator is a premium resource available via TheEverLearner.com.

I hope this helps both students and teachers in their exam preparations.

James Simms



Subject	Physical Education
Course	CNAT Sport Science 2022: R180 Reducing the risk of sports injuries and dealing with common medical conditions
Time allowed	1 hour 15 minutes

Title	OCR Cambridge National Sport Science R180 Reducing the risk of sports injuries and dealing with common medical conditions: National Mock Exam Summer 2024
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Guidance	<p>This is a full National Mock Exam designed to help support students taking the R180 exam in Summer 2024. The paper has been modelled on the 2022 SAMS. All questions and mark schemes are written with a thorough attention to detail by experienced exam writers.</p> <p>Instructions:</p> <ul style="list-style-type: none">• Answer all questions.• The final question of the paper is a synoptic assessment.• Good luck!
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Total marks	70
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1. Pulse raising is one component of a warm-up.
State **two** others.

Marking guidance

Accept the first two answers only.

Marking points (maximum 2)

- (1) [AO 1] Mobility
- (2) [AO 1] Dynamic stretching
- (3) [AO 1] Skill rehearsal phase/Skill rehearsal/Skill practice

2. Describe the physiological impact on a tendon of **not doing** a warm-up.

Marking guidance

Answers must refer to not doing a warm-up.

Marking points (maximum 1)

- (1) [AO 1] Will not be more pliable/Less pliable/More resistant

3. Look closely at this image. State which **two** of the factors are psychological benefits of a warm-up.

Marking points (maximum 2)

- (1) [AO 1] Increase confidence
- (2) [AO 1] Improve focus

4. Other than imagery, identify **two** mental strategies that performers can use to reduce the risk of sports injury.

Marking points (maximum 2)

- (1) [AO 1] Selective attention
- (2) [AO 1] Mental rehearsal

5. Look closely at this image. State the **two** missing components of the PRICE model.

Marking points (**maximum 2**)

(1) [AO 1] P is protection/Protection

(2) [AO 1] I is Ice/Ice

6. Describe **both** tennis elbow **and** golfer's elbow.

Marking points (**maximum 4**)

(1) [AO 1] Tennis elbow is pain on the outside of elbow/Lateral side/Outside

(2) [AO 1] Caused by repetitive elbow flexion

(3) [AO 1] Golfer's elbow is pain on the inside of the elbow/Medial side/Inside

(4) [AO 1] Caused by repetitive elbow extension

(5) [AO 1] Both are forms of epicondylitis/Epicondylitis

7. Describe **one** possible cause of a sprained ankle.

Marking points (**maximum 1**)

(1) [AO 1] Twisting/Loss of balance when changing direction

(2) [AO 1] Foot becoming stuck in the ground

8. EIA is one possible cause of asthma.

Define EIA.

Marking guidance

All three words must be provided for a mark.

Marking points (**maximum 1**)

(1) [AO 1] Exercise-induced asthma/Exercising in cold conditions brings on an attack/High-intensity exercise triggers an attack

9. The L of the SALTAPS model stands for LOOK. Describe what the first-aider might be looking for.

Marking points (**maximum 3**)

- (1) [AO 1] Disfigurement/Misshapen
- (2) [AO 1] Bruising/Contusion
- (3) [AO 1] Bleeding/Broken skin
- (4) [AO 1] Swelling/Inflammatory response

10. Describe **two** features of an emergency action plan (EAP) that relate to emergency communications.

Marking points (**maximum 2**)

- (1) [AO 1] Access to a telephone/Access to a radio/Mobile phone
- (2) [AO 1] List of emergency contact numbers

11. Identify **one** symptom of sudden cardiac arrest (SCA).

Marking points (**maximum 1**)

- (1) [AO 1] Loss of consciousness/Unconscious
- (2) [AO 1] Breathing difficulties/Shortness of breath
- (3) [AO 1] Chest pain/Pain down arms
- (4) [AO 1] Light-headedness/Dizziness
- (5) [AO 1] Sweating
- (6) [AO 1] Overwhelming anxiety/Dread/Fear

12. Explain why age is an intrinsic factor that affects the risk of injury in sport.

Marking points (**maximum 4**)

- (1) [AO 2] Because children do not typically play sport against adults
- (2) [AO 2] Because children play in age groups
- (3) [AO 2] Because young bones are not fully ossified
- (4) [AO 2] Because older bones tend to be more brittle

13. Identify **two** components of a cool-down that might be used by a rugby player.

Marking guidance

Components must be linked to rugby.

Marking points (maximum 2)

- (1) [AO 2] Pulse lowering, such as jogging across the pitch
- (2) [AO 2] Stretching of the leg muscles/Stretching of the arm muscles
- (3) [AO 2] PNF stretching by working with a teammate

14. Explain why a cool-down has physiological benefits to a rugby player after a match.

Marking points (maximum 3)

- (1) [AO 2] Because it gradually lowers the heart rate
- (2) [AO 2] Because it gradually lowers body temperature
- (3) [AO 2] Because circulation of blood and oxygen is maintained
- (4) [AO 2] Because it helps to prevent blood pooling
- (5) [AO 2] Because it gradually reduces breathing depth
- (6) [AO 2] Because it removes waste products such as lactic acid
- (7) [AO 2] Because it reduces the impact of DOMS

15. Explain why a rugby player may become aggressive during a match.

Marking points (maximum 4)

- (1) [AO 2] Because they are performing poorly
- (2) [AO 2] Because they are retaliating against aggression from someone else
- (3) [AO 2] Because they are experiencing pressure to win
- (4) [AO 2] Because of pressure from a coach/Pressure from a spectator/Pressure from a teammate
- (5) [AO 2] Because they perceive that the official has made an error
- (6) [AO 2] Because they are using PEDs

16. Using this image as reference, describe the relationship between arousal and performance levels in rugby.

Marking points (**maximum 4**)

(1) [AO 2] Inverted U summarises the relationship between arousal and performance quality/Relationship between arousal and performance quality/Impact of arousal on performance quality

(2) [AO 2] As arousal increases, performance increases up to a threshold/Arousal goes up and performance quality goes up until the optimal point/At low levels, there is a linear relationship between arousal and performance quality

(3) [AO 2] Peak performance occurs at moderate arousal/Moderate arousal causes best performance/Best performance is at moderate arousal

(4) [AO 2] At high arousal levels, performance quality decreases/After the optimal point, performance declines/Higher levels of arousal cause overarousal and worsening performance

17. Identify **two** acute injuries that could occur if two players clash heads in rugby.

Marking guidance

Only accept acute injuries that relate to the head. Do not accept variations of "get knocked out and then dislocate their elbow when falling."

Marking points (**maximum 2**)

(1) [AO 1] Concussion

(2) [AO 1] Abrasion/Graze/Cut

(3) [AO 1] Skull fracture/Cheek fracture/Jaw fracture

18. Explain why a rugby player might develop shin splints.

Marking points (**maximum 2**)

(1) [AO 2] Because rugby is running-based

(2) [AO 2] Because rugby is weight-bearing

19. Explain how **both** hypothermia **and** hyperthermia (heat exhaustion) might occur for participants in sport.

Marking guidance

Sub max two marks for hypothermia and two marks for hyperthermia.

Do not accept general references to hot and cold. Candidate must express the full cause.

Marking points (maximum 4)

- (1) [AO 2] Hypothermia is caused by body temperature falling below 35 degrees C
- (2) [AO 2] Hypothermia is caused by prolonged exposure to cold conditions/Ongoing exposure to cold air
- (3) [AO 2] Hypothermia is caused by falling into cold water/Clothes becoming wet in cold conditions
- (4) [AO 2] Hyperthermia is caused by body temperature exceeding 38 degrees C
- (5) [AO 2] Hyperthermia is caused by wearing the wrong clothing in hot conditions
- (6) [AO 2] Hyperthermia is caused by rigorous physical activity and a lack of hydration

20. Identify **three** possible triggers for an epileptic event.

Marking points (maximum 3)

- (1) [AO 1] Severe head injuries
- (2) [AO 1] Anxiety/Stress
- (3) [AO 1] Tiredness/Lack of sleep
- (4) [AO 1] Stroke/Brain tumour
- (5) [AO 1] Alcohol abuse/Drug abuse

21. Explain how the DR ABC model might be used for an individual experiencing an epileptic episode.

Marking points (**maximum 4**)

- (1) [AO 2] Danger: check the area for sharp objects/Check for electricity/Check for blood
- (2) [AO 2] Response: check for responsiveness/"Hello, my name is... I want to make sure you're ok..."
- (3) [AO 2] Airway: check the airway is open and clear
- (4) [AO 2] Breathing: watch to see if the chest rises and falls
- (5) [AO 2] Circulation: check for bleeding

22. Other than EIA, describe what causes an asthma attack.

Marking guidance

No credit for the symptoms of asthma.

Marking points (**maximum 3**)

- (1) [AO 1] Constriction of the bronchioles/Narrowing of airways
- (2) [AO 1] Release of additional mucus into the airways
- (3) [AO 1] Environmental triggers/Pollution/Smoke

23. Describe ultrasound treatment.

Marking points (**maximum 3**)

- (1) [AO 1] High frequency sound waves
- (2) [AO 1] Causes vibration of injured tissue
- (3) [AO 1] Causes an increase in extensibility of the injured tissue
- (4) [AO 1] Increases the rate of soft-tissue recovery

24. Describe **one** example of **each** of the following strategies to reduce risk in sport:

- Medicals
- Screening
- NGB policies

Marking points (**maximum 3**)

(1) [AO 2] Medicals such as blood pressure test/Cholesterol test/GP referral

(2) [AO 2] Screening such as a PAR-Q/Health survey/Injury survey

(3) [AO 2] NGB policies such as number of spotters for trampolining/How to support a gymnast performing a somersault/Guidance for teaching a javelin lesson

25. Analyse the extrinsic factors that can lead to injury in sport. Within your answer, give examples of when immobilisation could be used by a first-aider treating an injured sportsperson.

Marking guidance

[8-Mark Level Descriptors](#)



Marking points (**maximum 8**)

- (1) [AO 1] Type of activity: Some activities are more dangerous than others
- (2) [AO 2] Rugby involves collisions/Gymnastics involves heavy landings/Mountain biking involves falls
- (3) [AO 3] Different safety provision must be made for different activities
- (4) [AO 1] Coaching: Some activities require a different type of coach or leader
- (5) [AO 2] Outdoor adventure needs a leader highly trained in safety/Rock climbing requires a coach experienced with ropes/Javelin requires a different ratio of coach to performers than other sports
- (6) [AO 3] Coaches must be appropriately trained by the NGB
- (7) [AO 1] Environment: Some sporting environments are more dangerous than others
- (8) [AO 2] Lack of run-off area for indoor netball/Football being played on partially frozen ground/Rugby being played on artificial grass, which is less cushioning to land on
- (9) [AO 3] Right environment must be selected and managed by the coach
- (10) [AO 1] Equipment: Use of PPE
- (11) [AO 2] Mouthguard in boxing/Helmet in road cycling/Studded boots in rugby to prevent slipping
- (12) [AO 3] Coaches and officials must ensure safety equipment is used
- (13) [AO 2] Immobilise the shoulder joint with a sling if the shoulder or clavicle is injured
- (14) [AO 2] Immobilise the ankle with a splint or boot if it is sprained
- (15) [AO 2] Immobilise by using a cast for fractures