

## **Cambridge National**

### **Sport Science**

Unit **R041**: Reducing the risk of sports injuries

Level 1/Level 2

### **Mark Scheme for June 2015**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Question	Answer/Indicative content	Mark	Guidance
1	<p><b>One mark for each correct answer.</b></p> <p>a) Lordosis  b) Kyphosis  c) Scoliosis  d) Pelvic Tilt</p>	<p>1  1  1  1</p>	
2	<p><b>Two marks for two from:</b></p> <ol style="list-style-type: none"> <li>1. Performing again too soon (can cause injury) or you over-work the previously injured part or it has not healed yet</li> <li>2. The injury could cause (an inherent) weakness (leading to further injury)</li> <li>3. The injury could cause the performer to perform differently or change to a poor technique</li> <li>4. Altered posture (resulting from the injury, leading to further injury)</li> <li>5. Muscle imbalance</li> <li>6. Reduced decreased flexibility</li> <li>7. Can cause psychological issues / stress / anxiety</li> </ol>	2	Accept practical examples if description shows how risk of further injury can increase.

Question	Answer/Indicative content	Mark	Guidance
3	<p><b>One mark for psychological factor and one mark for description of how it might cause injury from:</b></p> <ol style="list-style-type: none"> <li>1. Arousal / Motivation or high arousal level or over-arousal or (over) motivated</li> <li>2. You feel you don't care or you are reckless or you don't care or you are not safe or you lack focus or you cannot concentrate</li> <li>3. (Under) aroused/lack of control in arousal levels or (lack of) motivation or (high) stress / anxious or (lack) confidence or (lack of) self-esteem</li> <li>4. May lead to a performer being too nervous / scared or not ready to perform in a safe way or could cause injury by not going into a tackle properly or lack of focus or not concentrating enough</li> <li>5. (Lack of) Focus</li> <li>6. Performer is not in the right frame of mind and unable to concentrate on the performance ahead or distracted.</li> <li>7. (Too much) Aggression</li> <li>8. Can cause a performer to go into a tackle too hard and cause injury to someone / themselves.or breaks the rules.</li> </ol>	2	<p><b>One mark max for the psychological factor (odd numbers) and one mark max for the description (even numbers) up to max of two marks</b></p> <p><b>If incorrect psychological factor then marks for description cannot be gained</b></p> <p><b>Do not accept as a psychological factor: nerves</b></p>

Question	Answer/Indicative content	Mark	Guidance
4	<p><b>8 marks with max of two marks for each benefit of warm-up from:</b></p> <p>a) (Heighten or control of arousal levels)</p> <ul style="list-style-type: none"> <li>- <b>Psychological benefit</b></li> <li>- Can psych you up or calm you down or can get you mentally prepared or can control stress/anxiety or increase in motivation/effort or more focussed or can concentrate or gets you 'in the zone'/ get mind in the game</li> </ul> <p>b) (Increase in heart rate)</p> <ul style="list-style-type: none"> <li>- <b>Physical benefit</b></li> <li>- increase in blood supply/ to the muscles or increase /speeds up blood flow or increase in oxygen supply (to the working muscles) or quicker supply of oxygen.</li> </ul> <p>c) (Increase in pliability of ligaments and tendons)</p> <ul style="list-style-type: none"> <li>- <b>Physical benefit</b></li> <li>- increase in flexibility (of ligaments and tendons) – or allows a greater range of movement at a joint, or reducing injury occurrence at a joint/in a muscle or less likely to injure ligament/tendon</li> </ul> <p>d) (Increase in motivation)</p> <ul style="list-style-type: none"> <li>- <b>Psychological benefit:</b></li> <li>- the more prepared they will be or the more they will try harder / be more determined / more committed or boost morale/confidence or increase in self-belief or less anxious or more focused (on doing well and winning) or gets you 'in the zone'.</li> </ul>	<p>2</p> <p>2</p> <p>2</p> <p>2</p>	<p>One mark for identifying whether each benefit is psychological or physical</p> <p>One mark for each description</p> <p>For a) preparation on its own = vague</p> <p>For b) do not accept: gets the blood pumping (vg) Accept: more blood pumping = 1 mark</p> <p>For c) do not accept increase in pliability (in question) For c) increases movement = vague</p> <p>For d) do not accept increase in motivation (in question)</p>

Question	Answer/Indicative content	Mark	Guidance
5	<p><b>5 marks max for 5 from :</b></p> <p><b>1. pulse raising</b></p> <ul style="list-style-type: none"> <li>- exercises that slowly increase heart rate or body temperature or suitable example (e.g. jogging, cycling, skipping, running)</li> </ul> <p><b>2. mobility</b></p> <ul style="list-style-type: none"> <li>- exercises that take the joints through their full range of movement (ROM) or an example e.g. arm swings, hip circles, high knees</li> </ul> <p><b>3. dynamic movements</b></p> <ul style="list-style-type: none"> <li>- change of speed and direction or an example e.g. shuttle runs</li> </ul> <p><b>4. stretching</b></p> <ul style="list-style-type: none"> <li>- developmental stretches, dynamic / static stretches or example e.g. 'open and close the gate' / groin walk</li> </ul> <p><b>5. skill rehearsal</b></p> <ul style="list-style-type: none"> <li>- rehearsing common movement patterns and skills which will be used in the activity or an example e.g. dribbling drills for football; passing drills for netball)</li> </ul>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>Accept a suitable practical example as the description or a definition of the component.</p> <p>Key components and plan must relate to the sport chosen.</p> <p>Eg slowly jogging around the football pitch (for football)</p> <p>Do not accept stretching on its own for the stretching phase – must give a description of type or method of stretching or which muscle group is being stretched for the mark to be awarded</p> <p>Eg stretching = 0 marks</p> <p>Stretching exercise for different parts of the body (for football) = 1 mark</p>

Question	Answer/Indicative content	Mark	Guidance
6	<p><b>Three marks for three from:</b></p> <ol style="list-style-type: none"> <li>1. characteristics of the individual/group or disability or motivation levels</li> <li>2. size of group</li> <li>3. age (of participants)</li> <li>4. gender or gender mix (of the group)</li> <li>5. Experience / ability level (of participants)</li> <li>6. individual fitness levels or (previous) injuries</li> <li>7. medical conditions eg those with asthma</li> <li>8. suitability of warm-up activity (as preparation for a particular activity/sport or type of sport/activity)</li> <li>9. time available</li> <li>10. environmental factors / surface / space or space available / state of the pitch</li> <li>11. weather</li> <li>12. temperature</li> <li>13. available facilities / equipment / clothing</li> </ol>	3	
7	<p><b>One mark for each correct from:</b></p> <ol style="list-style-type: none"> <li>a) Asthma</li> <li>b) Diabetes</li> <li>c) Epilepsy</li> </ol>	<p>1</p> <p>1</p> <p>1</p>	<p>Do not accept broken leg/limbs as medical condition for c)</p> <p>For c) do not accept fits</p>

Question	Answer/Indicative content	Mark	Guidance
8	<p><b>One mark for:</b></p> <p><b>False</b></p>	1	
9	<p><b>Two marks for two from:</b></p> <ol style="list-style-type: none"> <li>1. For a chronic medical condition or asthma attack/ difficulty breathy / epileptic fit /seizures etc.)</li> <li>2. Severe / bad Injury / concussion/ head injury</li> <li>3. Appropriate medical equipment not available</li> <li>4. When a performer has a condition that is causing them severe distress and illness (during performance which cannot be resolved or diagnosed by the coach)</li> <li>5. If you do not have the experience or appropriate level of knowledge or do not know the correct procedure or lack of expertise or not qualified or medical professional has more expertise</li> <li>6. You might put the player in danger or make things worse / prevent further damage</li> <li>7. To see whether they can continue (to participate)/carry on</li> </ol>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p><b>Look for a description for two marks.</b></p> <p><b>For a list of medical conditions = 1 mark max</b></p>
10	<p><b>One mark for each of the following:</b></p> <p>a) Diabetes</p> <p>b) Asthma</p> <p>c) Diabetes</p>	<p>1</p> <p>1</p> <p>1</p>	<p>Do not accept dehydration as a medical condition for a)</p> <p>Do not accept diarrhoea as a medical condition for c)</p>



Question	Answer/Indicative content	Mark	Guidance
11	<p><b>Four marks for four from:</b></p> <p>a) First responder/first aider/coach or someone who knows what they are doing or a qualified person</p> <p>b) (Emergency) communication or (emergency) contacts</p> <p>c) (Emergency) equipment</p> <p>d) First aid kits/evacuation chair or other emergency equipment examples</p>	1  1  1  1	



Question	Answer/Indicative content	Mark	Guidance
13	<p><b>One mark each for :</b></p> <p><b>a. Active</b></p> <p><b>b. Strength</b></p>	<p>1</p> <p>1</p>	<p>Do not accept 'A' or 'S' = vague Accept: Action</p>
14	<p><b>One mark for one of:</b></p> <p>1. Lifting (the limb) up or above your body or in a raised position or keeping (the limb) higher than the heart</p>	<p>1</p>	<p>Do not accept elevating or elevated (in the question)</p> <p>Lifting someone up = vague Lifting it up = BOD</p>
15	<p><b>(Extrinsic factors influencing the risk of injury)</b></p> <p><b>Levels of response:</b></p> <p>0 = nil response or response not worthy of credit</p> <p><b>MB1 (1 – 3 marks)</b></p> <ul style="list-style-type: none"> <li>• The response shows a limited understanding of the extrinsic factors that influence the risk of injury.</li> <li>• Candidates provide simple bullet points and limited descriptions of a few points from the indicative content.</li> <li>• No attempt is made at evaluation and there may be some irrelevant material in the answer.</li> <li>• There is little or no use of technical vocabulary and sentences have limited coherence and structure.</li> <li>• Errors in grammar, punctuation and spelling may be noticeable and intrusive.</li> </ul>	<p>8</p>	<p><b><i>In differentiating between levels look for:</i></b></p> <p><b><i>MB1: -Simple description rather than explanation</i></b></p> <p><b><i>MB2: - May be one or more developed points</i></b> <b><i>- Some explanation</i></b></p> <p><b><i>MB3: - Points are developed / expanded in more than one area of the answer (it is expected that each area is mentioned):</i></b></p> <ul style="list-style-type: none"> <li>- environmental factors, coaching &amp; supervision, type of activity and equipment)</li> <li>- <i>Clear explanations</i></li> <li>- <i>Very few QWC errors</i></li> </ul>

Question	Answer/Indicative content	Mark	Guidance
	<p><b>MB2 (4 – 6 marks)</b></p> <ul style="list-style-type: none"> <li>• The response shows an understanding of the key (more than two) extrinsic factors that influence the risk of injury.</li> <li>• Some attempt at evaluation is made, which may include the use of one or more of the developed points in order to show understanding of the topic area.</li> <li>• Some use of technical vocabulary and sentences for the most part are relevant and are coherent.</li> <li>• There are occasional errors in grammar, punctuation and spelling.</li> </ul> <p><b>MB3 (7 - 8 marks)</b></p> <ul style="list-style-type: none"> <li>• The response shows a detailed understanding with detailed discussion regarding a variety of extrinsic factors (more than three) that influence the risk of injury.</li> <li>• Candidates make many points from the indicative content, covering points from each of the areas/sections outlined in the content – environmental factors, coaching &amp; supervision, type of activity and equipment - several of which may be developed, leading to an evaluation being clearly made.</li> <li>• The answer is well structured and uses appropriate terminology and technical vocabulary.</li> <li>• There are few if any errors in grammar, punctuation and spelling.</li> </ul>		<p><i>Indicate the level at the end of the response</i></p>

Question	Answer/Indicative content	Mark	Guidance
	<p><b>Indicative Content</b> Extrinsic factors which can influence the risk of injury:</p> <p><b>1.-Type of activity</b></p> <ul style="list-style-type: none"> <li>• e.g. contact sports present different injury risks from gymnastic activities</li> </ul> <p><b>2.-Coaching/supervision</b></p> <ul style="list-style-type: none"> <li>• poor/incorrect coaching techniques</li> <li>• ineffective communication skills</li> <li>• importance of adhering to rules and regulations</li> </ul> <p><b>3.-Environmental factors</b></p> <ul style="list-style-type: none"> <li>• Weather</li> <li>• playing surface/performance area and surrounding area</li> <li>• other participants</li> </ul> <p><b>4.-Equipment</b></p> <ul style="list-style-type: none"> <li>• protective equipment (e.g. shin pads in football; gum shield in boxing, helmet in cycling, goggles in skiing)</li> <li>• performance equipment (e.g. hockey stick; cricket ball, rock climbing harness)</li> <li>• clothing/footwear suitable for playing surface</li> </ul> <p><b>5. Specific to type of sport or activity</b></p> <ul style="list-style-type: none"> <li>• safety hazards</li> <li>• risk assessments/safety checks</li> <li>• emergency action plan</li> </ul>		

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