



---

# **GCE MARKING SCHEME**

---

**SUMMER 2016**

**GCE HEALTH AND SOCIAL CARE - UNIT 6  
1626/01**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2016 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

**GCE HEALTH AND SOCIAL CARE - UNIT 6**

**SUMMER 2016 MARK SCHEME**

Question	Answer	Mark	AO1	AO2	AO3	AO4
1. (a)	Award 1 mark for a correct answer: Bacterium	1	1			
(b) (i)	Award a maximum of 3 marks for a detailed description of chlamydia or MRSA.  Likely answers may include:  <b>For chlamydia</b> <ul style="list-style-type: none"> <li>• it is a sexually transmitted infection (STI)</li> <li>• it is caught through unprotected vaginal, anal or oral sex</li> <li>• it is caught from an infected individual</li> </ul> <b>For MRSA</b> <ul style="list-style-type: none"> <li>• usually spread through skin-to-skin/direct contact with someone who has/carried MRSA</li> </ul> or <ul style="list-style-type: none"> <li>• through (indirect) contact with objects such as towels, sheets, clothes or dressing which are contaminated with MRSA</li> </ul>	3	3			
(ii)	Award 1 mark for each correct answer, up to a maximum of 3 marks.  Likely answers may include:  <b>For chlamydia</b>  Women may have 'non-specific' symptoms such as: <ul style="list-style-type: none"> <li>• cystitis</li> <li>• a change in vaginal discharge</li> <li>• mild lower abdominal pain</li> <li>• unusual bleeding</li> <li>• inflammation</li> <li>• pain during sex</li> </ul> Men may experience the following: <ul style="list-style-type: none"> <li>• discharge from the penis opening</li> <li>• irritation at the end of the penis</li> <li>• inflammation of tubes and testicles</li> </ul> <b>For MRSA</b>  A wound infected with MRSA is generally: <ul style="list-style-type: none"> <li>• inflamed</li> <li>• swollen</li> <li>• tender to the touch</li> <li>• may have pus seeping from it</li> <li>• may cause general fever</li> </ul>	3	3			

Question	Answer	Mark	AO1	AO2	AO3	AO4
1. (c) (i)	<p><b>0-3 marks:</b> Answers that identify some of those to whom screening may be offered. Little or no use of specialist vocabulary.</p> <p><b>4-6 marks:</b> Answers that discuss in detail the appropriateness of certain groups for a screening programme. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <p><b>For chlamydia</b></p> <ul style="list-style-type: none"> <li>• sexually active individuals</li> <li>• both sexes</li> <li>• individuals likely to have more than one sexual partner</li> <li>• not just individuals who show symptoms because many individuals can carry the infection without symptoms</li> <li>• largest possible coverage to reduce reservoir of carriers</li> <li>• individuals who have a diagnosed sexual partner</li> </ul> <p><b>For MRSA</b></p> <ul style="list-style-type: none"> <li>• individuals due to have surgical procedures</li> <li>• individuals who work in care settings, especially hospitals</li> <li>• individuals with open wounds/reduced immune function are highly vulnerable to infection</li> <li>• hospitals have high concentrations of vulnerable individuals</li> <li>• healthy individuals can carry MRSA on their skin</li> <li>• hospitals bring many individuals together in a small space, increasing the likelihood of being in contact with a carrier</li> </ul> <p>(Accept any other reasonable answer.)</p>	6		3		3
(ii)	<p>Award a maximum of 3 marks for a detailed explanation.</p> <p>Likely answers may include:</p> <p><b>For chlamydia</b></p> <ul style="list-style-type: none"> <li>• identification of carriers</li> <li>• treatment of carriers</li> <li>• reduces the number of carriers/reservoirs of disease</li> <li>• reduces the likelihood of infection</li> <li>• once a carrier is identified, at-risk partners can be informed and encouraged to seek screening themselves</li> </ul> <p><b>For MRSA</b></p> <ul style="list-style-type: none"> <li>• identification of carriers</li> <li>• treatment of carriers</li> <li>• reduces the number of carriers/reservoir of disease</li> <li>• reduces the presence of MRSA in high-risk settings</li> <li>• reduces the likelihood of infection</li> </ul> <p>(Accept any other reasonable answer.)</p>	3			3	

Question	Answer	Mark	AO1	AO2	AO3	AO4
1. (d) (i)	<p>Award 1 mark for identification of correct stage, and up to 2 marks for a clear explanation.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• screening – removes large items of debris from the water</li> <li>• settlement – allows smaller particles time to settle to the bottom, with any attached micro-organisms</li> <li>• filtration – removes remaining particulates and many remaining bacteria</li> <li>• chlorination – kills any remaining bacteria and viruses</li> <li>• storage – needs to be secure from external sources of re-contamination at this point</li> </ul>	3	3			
(ii)	<p><b>0-3 marks:</b> Answers that give a basic explanation of why the treatment of drinking water is an effective use of resources in preventing the transmission of disease. Little or no use of specialist vocabulary.</p> <p><b>4-6 marks:</b> Answers that give a detailed explanation of why the treatment of drinking water is an effective use of resources in preventing the transmission of disease. Specialist vocabulary used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• many disease-causing organisms live in, or can be carried effectively by, water</li> <li>• everyone uses water for drinking, washing and cooking</li> <li>• each of these uses offers an opportunity of portals of entry for disease</li> <li>• water is an ideal vehicle for distributing infections over wide areas</li> <li>• centralised nature of many drinking water sources, which may serve large populations through an elaborate distribution system</li> <li>• water treatment has a relatively low cost per individual affected</li> <li>• effective water treatment prevents loss of productive time through waterborne disease</li> <li>• effective water treatment prevents death of many individuals</li> <li>• effective water treatment lowers the cost lost of treatment of waterborne disease</li> <li>• the economic benefits of preventing these losses outweigh the costs of water treatment</li> </ul> <p>(Accept any other reasonable answer.)</p>	6		6		
	<b>Total for Question 1</b>	<b>25</b>	<b>10</b>	<b>9</b>	<b>3</b>	<b>3</b>

Question	Answer	Mark	AO1	AO2	AO3	AO4
2. (a)	<p>Award 1 mark for each correct answer, up to a maximum of 3 marks.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• males over 50 get less fractures than females over 50</li> <li>• 50% of women over 50 suffer fractures</li> <li>• 20% of men over 50 suffer fractures</li> <li>• a much higher percentage of women over 50 suffer fractures compared to men</li> </ul> <p>(Allow any other reasonable comparison of the figures.)</p>	3			3	
(b)	<p>Award a maximum of 3 marks for a detailed explanation.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• the menopause</li> <li>• reduces the amount of oestrogen present</li> <li>• which can reduce the ability to renew bone/alter the balance between breakdown and renewal</li> <li>• reduces the ability to absorb calcium</li> </ul>	3	2	1		
(c)	<p><b>0-3 marks:</b> Answers that give a basic description of the changes that take place in the bones of someone with osteoporosis. Little or no use of specialist vocabulary.</p> <p><b>4-5 marks:</b> Answers that give a detailed description of the changes that take place in the bones of someone with osteoporosis. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• the loss of ability to regenerate bone tissue</li> <li>• in living bone cells</li> <li>• less able to break down old bone</li> <li>• less able to renew bone with healthy, dense new bone, resulting in: <ul style="list-style-type: none"> <li>- larger pore spaces</li> <li>- lower bone density</li> <li>- more brittle bones</li> </ul> </li> </ul>	5	5			

Question	Answer	Mark	AO1	AO2	AO3	AO4
2. (d)	<p>Award 1 mark for each correct answer, up to a maximum of 2 marks.</p> <p>Likely answers may include:</p> <p>The early symptoms of osteoporosis can include:</p> <ul style="list-style-type: none"> <li>• joint pains</li> <li>• having difficulty standing or sitting up straight</li> <li>• minor fall or sudden impact causes a bone fracture</li> </ul> <p>As the disorder progresses:</p> <ul style="list-style-type: none"> <li>• breakages of the wrist, hip or spinal bones (vertebrae) are common</li> <li>• arthritis</li> <li>• long-term problems with mobility</li> <li>• the characteristic stooping (bent forward) position, a visible sign of osteoporosis</li> </ul>	2	2			
(e) (i)	<p><b>0-3 marks:</b> Answers that present some relevant discussion; may be a poor consideration of a number of aspects of how diet can be used to manage osteoporosis or a reasonable consideration of one. Answers convey meaning but lack detail. Little or no use of specialist vocabulary.</p> <p><b>4-6 marks:</b> Answers that discuss, in detail, how both the quality and quantity of dietary intake can be managed to minimise the effect of osteoporosis. Answers are well-structured and clearly expressed. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• maintaining adequate levels of calcium and vitamin D in the diet</li> <li>• can reduce the loss of calcium</li> <li>• maintaining a healthy body weight through dietary control</li> <li>• too little body mass can increase calcium loss</li> <li>• too great a body mass can increase the likelihood of fractures</li> <li>• keeping alcohol intake to a minimum</li> </ul> <p>(Accept any other reasonable answer.)</p>	6	2	2		2

Question	Answer	Mark	AO1	AO2	AO3	AO4
2. (e) (ii)	<p><b>0-3 marks:</b> Answers that present some relevant discussion; may be a poor consideration of a number of aspects of how exercise can be used to manage osteoporosis or a reasonable consideration of one. Answers convey meaning but lack detail. Little or no use of specialist vocabulary.</p> <p><b>4-6 marks:</b> Answers that discuss how different types of exercise can stimulate bone deposition, directly improving bone density, and can strengthen the musculature and tendons, improving skeletal support. Answers are well-structured and convey meaning. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• weight-bearing exercise</li> <li>• strengthens muscles, ligaments and joints</li> <li>• the strengthening of the muscles and ligaments will tend to support the skeleton and reduce the risk of fracture</li> <li>• resistance/impact exercises</li> <li>• create tension on the bone through the tendons pulling on them</li> <li>• the response of the bone tissue to tension is to try to thicken and strengthen the bone tissue to enable the bone to cope with the tension</li> <li>• counteracts the bone-thinning effects of osteoporosis</li> </ul> <p>(Accept any other reasonable answer.)</p>	6	2	2		2
	<b>Total mark for Question 2</b>	<b>25</b>	<b>13</b>	<b>5</b>	<b>3</b>	<b>4</b>



Question	Answer	Mark	AO1	AO2	AO3	AO4
3. (a) (i)	<p><b>0-3 marks:</b> Answers that give a basic explanation of the advantages for wider society of individuals following a healthy lifestyle. Little or no use of specialist vocabulary.</p> <p><b>4-5 marks:</b> Answers that give a detailed explanation of the advantages for wider society of individuals following a healthy lifestyle. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• more healthy population</li> <li>• less infectious disease</li> <li>• less likelihood of epidemic</li> <li>• more productive working time</li> <li>• less cost to health and social care systems</li> <li>• less stress on family relationships</li> </ul> <p>(Accept any other reasonable answer.)</p>	5	2	3		
(ii)	<p><b>0-3 marks:</b> Answers that give a basic explanation of the disadvantages for wider society of individuals following a healthy lifestyle. Little or no use of specialist vocabulary.</p> <p><b>4-5 marks:</b> Answers that give a detailed explanation of the disadvantages for wider society of individuals following a healthy lifestyle. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• increased number of infections</li> <li>• increased discomfort</li> <li>• more damage to the body</li> <li>• loss of mobility</li> <li>• deficiency diseases</li> <li>• increased risk of mortality (shorter life)</li> <li>• loss of active time</li> <li>• loss of income</li> <li>• poorer social life/quality of life</li> </ul> <p>(Accept any other reasonable answer.)</p>	5	2	3		

Question	Answer	Mark	AO1	AO2	AO3	AO4
3. (b) (i)	<p><b>0-3 marks:</b> Answers that give a basic discussion of how hygiene, management of sexual contact, fitness, diet and avoidance of use of recreational drugs can all contribute to the avoidance of, or improved resistance/resilience to, infection. May be a poor consideration of a number of aspects or a reasonable consideration of one. Answers convey meaning but lack detail. Little or no use of specialist vocabulary.</p> <p><b>4-5 marks:</b> Answers that give some relevant discussion of how hygiene, management of sexual contact, fitness, diet and avoidance of use of recreational drugs can all contribute to the avoidance of, or improved resistance/resilience to, infection. Answers convey meaning, with some use of specialist vocabulary.</p> <p><b>6-7 marks:</b> Answers that discuss, in detail, how hygiene, management of sexual contact, fitness, diet and avoidance of use of recreational drugs can all contribute to the avoidance of, or improved resistance/resilience to, infection. Answers are well-structured and clearly expressed. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• the contribution of personal hygiene to reducing vulnerability to infection</li> <li>• regular handwashing to avoid transfer of infection by contact</li> <li>• use of handkerchiefs/tissues to avoid aerosol transfer of infection</li> <li>• additional detail may talk of adequate drying of skin before covering with clothing, especially socks, or avoidance of sharing clothing/towels</li> <li>• wearing of protective footwear in communal baths/showers/changing facilities</li> <li>• management of sexual contact – minimising number of partners, use of barrier protection, regular screening</li> <li>• general fitness and good diet – improved immune response, improved cardiovascular condition, reduced impact on cardiovascular system and energy resources to cope with infection</li> <li>• avoidance of alcohol, smoking and other recreational drugs – reduced risk-taking, impact on body systems (may specify liver, lungs, cardiovascular system) and immune system</li> </ul> <p>(Accept any other reasonable answer, e.g. choose to take up vaccinations.)</p>	7			3	4

Question	Answer	Mark	AO1	AO2	AO3	AO4
3. (b) (ii)	<p><b>0-3 marks:</b> Answers that give a basic discussion of how cardiovascular fitness, balanced diet and control of the use of recreational drugs can all contribute to the avoidance of non-infectious diseases; may be a poor consideration of a number of aspects or a reasonable consideration of one. Answers convey meaning but lack detail. Little or no use of specialist vocabulary.</p> <p><b>4-6 marks:</b> Answers that give some relevant discussion of how cardiovascular fitness, balanced diet and control of the use of recreational drugs can all contribute to the avoidance of non-infectious diseases. Answers convey meaning, with some use of specialist vocabulary.</p> <p><b>7-8 marks:</b> Answers that discuss, in detail, how cardiovascular fitness, balanced diet and control of the use of recreational drugs can all contribute to the avoidance of non-infectious diseases. Answers are well-structured and clearly expressed. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• the contribution of cardio-vascular fitness to reducing plaque and blood pressure</li> <li>• management of diet – how minimising the intake of salt, refined sugar and saturated fats reduces the risk of CAD (also credit reference to diabetes)</li> <li>• management of diet – how intake of sufficient quantities of vitamins and minerals can minimise the risk of diseases of deficiency</li> <li>• avoidance of alcohol, smoking and other recreational drugs – all are general risk factors for most degenerative diseases</li> </ul> <p>(Accept any other reasonable answers, including reference to avoidance/management of occupations which expose the body to undue, repetitive stress or environmental contaminants such as dust.)</p>	8		3	3	2
	<b>Total for Question 3</b>	<b>25</b>	<b>4</b>	<b>9</b>	<b>6</b>	<b>6</b>

Question	Answer	Mark	AO1	AO2	AO3	AO4
4. (a)	<p>Award 1 mark for each correct answer, up to a maximum of 3 marks.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• through breaks in the skin/open wounds</li> <li>• through the mouth/gut</li> <li>• through the urogenital openings</li> <li>• through mucous membranes in the nose/eyes/mouth</li> </ul>	3	2	1		
(b) (i)	<p>Award a maximum of 4 marks for a detailed explanation.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• antibodies in the plasma</li> <li>• bind to (antigens on) the virus</li> <li>• neutralise the virus</li> <li>• mark the virus</li> <li>• phagocytes engulf (and digest) the antibody marked virus</li> </ul>	4	2	2		
(ii)	<p>Award 1 mark for each correct answer, up to a maximum of 2 marks:</p> <ul style="list-style-type: none"> <li>• natural</li> <li>• passive</li> </ul>	2	2			
(c)	<p><b>0-3 marks:</b> Answers that give a limited explanation of how vaccination programs function to protect both individuals and whole populations from infectious diseases, probably focused on one aspect of vaccination programmes. Little or no use of specialist vocabulary.</p> <p><b>4-6 marks:</b> Answers that explain, in detail, how vaccination programs function to protect both individuals and whole populations from infectious diseases. Answers are well-structured and clearly expressed. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• raising of an immune response to the disease without giving the immunised individual the disease itself</li> <li>• protection of the individual from infection for a predictable period of time</li> <li>• reduced number of individuals vulnerable to infection, thereby reducing ability of disease to pass from individual to individual</li> <li>• reduced reservoir of the disease, further reducing the risk of individuals being exposed to possible infection</li> </ul> <p>(Accept any other reasonable answer.)</p>	6		2	2	2

Question	Answer	Mark	AO1	AO2	AO3	AO4
4. (d)	<p><b>0-3 marks:</b> Answers that present basic discussion of how hygiene, use of PPE and management of contact can be used in infection control. Answers convey meaning but lack detail. Little or no use of specialist vocabulary.</p> <p><b>4-7 marks:</b> Answers that give some relevant discussion of how hygiene, use of PPE and management of contact can be used in infection control. Answers convey meaning, with some use of specialist vocabulary.</p> <p><b>8-10 marks:</b> Answers that discuss, in detail, how particular hygiene routines, specific items of PPE and management of quarantine (possibly including the careful disposal of corpses) can be used in infection control. Answers are well-structured and clearly expressed. Specialist terms used with ease and accuracy.</p> <p>Likely answers may include:</p> <ul style="list-style-type: none"> <li>• use of PPE by health workers to prevent direct contact with the disease</li> <li>• quarantine of sufferers – behind contact barriers to prevent direct contact with potential further hosts</li> <li>• tracing and quarantine of known contacts of sufferers</li> <li>• use of biocides to minimise risk of contact transfer</li> <li>• washing down of PPE with biocides before disrobing</li> <li>• careful disposal/sterilisation of items of clothing and equipment used in the treatment and care of sufferers</li> <li>• travel restrictions</li> </ul> <p>(Accept any other reasonable answer.)</p>	10	4	2	2	2
	<b>Total for Question 4</b>	<b>25</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>4</b>