

Question Number	Answer	Additional guidance	Mark
1(a)(i)	1. reference to {death / killing / destroying / eq } (of bacteria cells) ; 2. idea that {bacteria / cells} burst ;	1. Ignor reference to stopping growth 2. Acce lysis, loss of osmotic control	(2)

Question Number	Answer	Additional guidance	Mark
1(a)(ii)	1. reference to cells cannot {reproduce / increase in number / produce new cells / multiply / replicate / eq} ; 2. idea of no (cell) division ;	2. Accep no binary fission	(2)

Question Number	Answer	Additional guidance	Mark
1(b)(i)	1. (A and C resistant as) no {clear zone / zone of inhibition / eq} around A and C ; 2. idea that {clear zone / eq} indicates where antibiotic {inhibits growth / kills bacteria / eq} ; 3. {clear zone / eq} around B {smaller/ eq} than clear zone around D ; 4. idea of {size / diameter / width /eq} of clear zone indicates {effectiveness / eq} ; [check diagram for appropriate labels]	1. Accep a clear description of this area around the disc 2. Accept converse 3. Accep converse	(3)

Question Number	Answer	Mark
1(b)(ii)	C reliability ;	(1)

Question Number	Answer	Mark
1(b)(iii)	D validity;	(1)

Question Number	Answer	Additional guidance	Mark
1(c)	<ol style="list-style-type: none"> 1. reference to hospitals {having / changing / eq } a {code of practice / protocol / policy / standards / eq} (for dealing with hospital acquired infections) ; 2. idea of clothing rules for hospital workers ; 3. reference to <u>improved</u> laundry of bed linen e.g. {<u>increased</u> frequency / higher washing temperature / eq} ; 4. reference to use of special {pillow cases / treatment of pillow cases} e.g. microfilters, treated with antibacterials, sterilisation, disposable pillow cases ; 5. reference to use of special procedures when carrying {pillow cases / bed linen} to laundry e.g. sealed plastic bags ; 6. screening of patients / isolation of infected patients / eq ; 7. idea of hand washing regimes / eq ; 	<p>1. All references to pillows for pillow cases throughout</p> <p>3. All pillow cases should be washed daily</p> <p>7. All hands should always be washed</p>	(3)

Question Number	Answer	Mark																
2(a)	<table border="1"> <thead> <tr> <th>Feature</th> <th>Bacteria only</th> <th>Viruses only</th> <th>Both bacteria and viruses</th> </tr> </thead> <tbody> <tr> <td>Nucleic acid</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>Cytoplasm</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Protein capsid</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	Feature	Bacteria only	Viruses only	Both bacteria and viruses	Nucleic acid			✓	Cytoplasm	✓			Protein capsid		✓		(3)
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1 mark each correct row ;;;																		

Question Number	Answer	Mark
2(b)(i)	<ol style="list-style-type: none"> 1. idea of (SCAG is) caused by {a bacterium / bacteria} ; 2. antibiotics {kill / stop reproduction / eq} of bacteria / are {bactericidal / bacteriostatic} ; 	(2)

Question Number	Answer	Mark
*2(b)(ii) QWC	<p>Spelling of technical terms must be correct and the answer must be organised in a logical sequence</p> <ol style="list-style-type: none"> 1. as age increases, acid secretion decreases / eq ; 2. as age increases (above 30) , stomach cancer increase / eq ; 3. as acid secretion decreases (below 120), stomach cancers increases / eq ; 4. idea that the {higher age groups (51+) have low acid and high cancer / lower age groups (up to 30) have high acid and low cancer} ; 5. Idea of {acid / low pH} (in stomach) kills {bacteria / <i>Helicobacter</i>} ; 6. reference to development of SCAG {inhibited / prevented / eq} (by low pH / more stomach acid) ; 7. idea of age affects the immune system ; 8. idea that the older you are acid-producing cells are less effective e.g. fewer acid-producing cells / cancer cells replace the acid-producing cells ; 9. idea that {acid / low pH} destroys cancer cells ; 10. idea that mutations (leading to cancer) more likely to occur with age ; 	(5)

Question Number	Answer	Mark
3(a)	<ol style="list-style-type: none"> 1. idea of antibiotic is used to {control / kill / prevent reproduction of / eq} bacteria ; 2. bacteriostatic prevent {reproduction / division / multiplication / growth / eq} of bacteria; 3. bactericidal {destroy / kill / eq} bacteria ; 	(3)

Question Number	Answer	Mark
3(b)	<ol style="list-style-type: none"> 1. idea that both more or less the same at {start / end} ; 2. idea that B is higher than A most of the time ; 3. B rises and then falls and A falls and then rises / eq ; 4. ref to both falling after April 04 / eq ; 5. comparative use of figures ; 	maximum (3)

Question Number	Answer	Mark
3(c)(i)	D {has the lowest rate of MRSA infection (throughout) / is consistent / has less fluctuation} / eq ;	(1)

Question Number	Answer	Mark
3(c)(ii)	<ol style="list-style-type: none"> 1. D has {stricter / eq} hygiene practices / eq ; 2. ref to hand washing regimes for {doctors / nurses / medical staff / visitors} ; 3. particularly when dealing with open {wounds / eq} / eq ; 4. ref to wearing suitable clothing ; 5. ref to antiseptic (solutions) readily available ; 6. named antiseptic e.g. gels, pastes, alcohol rubs ; 7. ref to {isolation of suspected cases / screening of admissions} / eq ; 8. D {controls / monitors} use of antibiotics / eq ; 9. fewer {patients / visitors} passing in and out ; 	<p style="text-align: right;">maximum (3)</p>