

Question number	Answer	Notes	Marks
1 (a)	1. cell membrane; 2. cytoplasm; 3. chromosome / nucleoid; 4. plasmid(s); 5. flagellum; 6. ribosome; 7. capsule;	3. ignore DNA 4. ignore circle of DNA ignore incorrect structure label ignore correct structure labelled incorrectly or doesn't look like correct structure eg plasmid going to a straight line in cytoplasm	3
(b)(i)	S vertical scale linear and at least half grid; L neat lines drawn for bars; A axes labelled number of people and type of food / names of foods; P bars at correct height for ill and dead; K key to show ill and dead;	If scale not linear lose S and P Line graph loses L	5

(ii)	<p>1. cheese;</p> <p>2. indication of working 22% / 21.9% / 21.97% risk of death / 78% chance of living / ratio of 4.55;</p>		2
(c)	<p>1. kill/destro bacteria / eq;</p> <p>2. whi blood cells;</p> <p>3. <u>ph</u>ocytes / <u>macrophage</u>;</p> <p>4. engul / surround / ingest / digest / eat / eq;</p> <p>5. <u>lymp</u>cytes;</p> <p>6. antibodies / anti xins;</p> <p>7. (b d to) antigens;</p> <p>8. mory cells;</p>	<p>phagocytosis = 2</p> <p>lymphocytes engulf = allow lymphocyte mark only</p> <p>phagocytes produce antibodies all phagocyte mark only</p> <p>white blood cells engulf = 2</p> <p>white blood cells produce antibodies = 2</p>	5

Total 15 marks

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2 (a)	<table border="1"> <thead> <tr> <th>Effect</th> <th>Name of hormone</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>converts glucose to glycogen</td> <td>(insulin)</td> <td>(pancreas)</td> </tr> <tr> <td>stimulates male secondary sexual characteristics</td> <td>testosterone;</td> <td>(testis)</td> </tr> <tr> <td>increases permeability of the collecting duct</td> <td>ADH;</td> <td>hypothalamus / pituitary;</td> </tr> <tr> <td>repairs uterus lining</td> <td>oestrogen;</td> <td>ovary;</td> </tr> </tbody> </table>	Effect	Name of hormone	Source	converts glucose to glycogen	(insulin)	(pancreas)	stimulates male secondary sexual characteristics	testosterone;	(testis)	increases permeability of the collecting duct	ADH;	hypothalamus / pituitary;	repairs uterus lining	oestrogen;	ovary;						<p>Allow reasonable spellings</p>	5
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(b)	1. soluble / dissolves; 2. osmotic effect / eq;	Ignore small	2
(c)	X;		1

Total 8 marks

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3 (c)	receptor / nerve ending; sensory neurone / sensory nerve; impulse / message / signal; CNS / spinal cord / grey matter; synapse; relay neurone / relay nerve; motor neurone ; muscle / effector; contract;	sensory or motor not in correct order = 0 ignore brain allow intermediate / association;	5
		Total	13

Question number	Answer	Notes	Marks
4 (a)	<u>small surface area to volume</u> (ratio); less heat loss / less energy loss maintain body temp. / keep warm / fat insulation / eq;	allow small surface area to mass (ratio)	2
(b)	<u>insulation</u> / <u>insulator</u> / <u>insulated</u> ; trap air; less heat loss / less energy loss / maintain body temp. / keep warm / trap heat / eq;		max 2
5 (c) (i)	muscles kept warm / eq; <u>contract</u> ; respiration; enzymes / optimum;	allow converse ignore work / move ignore answers that describe position in feet	max 3
(ii)	strong / not elastic / eq;	allow descriptions of strength eg will not snap strong and elastic = 0	1
(d)	less heat loss / less energy loss / maintain body temp. / keep warm / share body heat / trap heat / eq; shelter / protect / not exposed (cold/wind) / eq; decrease SA: Vol;	ignore protect from predators	2

TOTAL 10 MARKS

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5	<p>C noise and no noise / range of noise;</p> <p>O same species / mass / seeds / amount of crop / eq;</p> <p>R replication evident;</p> <p>M1 mass eaten / number eaten / count birds / eq;</p> <p>M2 time period stated;</p> <p>S1 weather / season / temperature / wind / same time of day / eq;</p> <p>S2 same number / species of bird / same area / field size / quadrat / eq;</p>	<p>allow amount / how much / how many</p> <p>allow temperature if in field</p> <p>ignore same field</p>	max 6

TOTAL 6 MARKS