

HUMAN AND SOCIAL BIOLOGY

Paper 5096/11
Multiple Choice

Question Number	Key	Question Number	Key
1	B	21	D
2	A	22	C
3	D	23	D
4	B	24	D
5	D	25	B
6	B	26	B
7	C	27	C
8	C	28	D
9	A	29	B
10	B	30	C
11	B	31	A
12	A	32	A
13	A	33	B
14	D	34	B
15	A	35	A
16	A	36	A
17	C	37	C
18	A	38	A
19	A	39	C
20	B	40	D

General comments

Questions 2, 10, 12, and 17 required the consideration of a number of different facts and Questions 9, 22, 28 and 33 required the interpretation of information presented in unfamiliar ways making these questions the most difficult to answer. Practice on these types of question, where knowledge has to be applied to an unfamiliar situation, would be beneficial to candidates. Questions 1 and 27 were well answered.

Comments on specific questions

Question 2

Candidates need to know that *Plasmodium* is a protozoan, and as such it would possess a nucleus.

Question 9

This was a difficult question for most candidates. Candidates had to apply their biological knowledge to the problems of astronauts and obtain the 'most likely' results. Astronaut's muscles will not fail to move, iron deposits on bones, and vitamin C will not have an effect on them. Neither is there any reason for iron deposits. The syllabus objective 3(e), that calcium is needed for bone formation, was required in order to correctly answer the question.

Question 12

Candidates appear to have difficulty when needing to consider several facts to arrive at the answer. Rather than carefully consider the four facts given, which in this case were all correct, most candidates appeared to guess.

Question 15

This question proved difficult. The mechanism of breathing is known to be a difficult concept and needs careful attention to the pressure differences involved.

Question 22

That glucagon is needed to replenish glucose when the glucose level falls as shown in the graph between 5.5 and 6 hours, was not deduced by many candidates.

Question 23

There is a common misconception that taste is a stimulus, when in fact taste is the activity of detecting the stimulus of chemicals.

Question 28

Interpretation of a pie chart, rather than a graph of the menstrual cycle was difficult for many candidates. Sector D, represented the last part of the cycle where progesterone levels would decrease except if pregnancy occurs. This had to be deduced as less likely, since pregnancy is less likely. The rise in progesterone production would therefore be in sector C.

Question 33

In the situation shown only spraying houses with insecticide would reduce malaria by killing mosquitoes. Spraying oil is not effective on fast flowing water and mosquito larva would not be present to be eaten by fish.

Question 34

This question only tests the fact that snails are the secondary hosts and humans the primary hosts in the *Schistosoma* life cycle. The terms 'primary' and 'secondary' hosts need to be made clear when explaining life cycles to candidates.

Question 37

Some candidates may have thought this was a case of active immunity being induced, as is common prior to an infection. However if the wound is already contaminated with soil, such action would be too late and passive immunity is necessary by injecting tetanus antibodies.

Question 40

Candidates need to understand that 'run off' water with fertiliser, will encourage plant growth in a lake because of the additional mineral salts. Many candidates chose option C with leaves falling into the lake indicating they did not appreciate that the decomposition of the leaves would take time and be of less value in providing salts.

HUMAN AND SOCIAL BIOLOGY

Paper 5096/12
Multiple Choice

Question Number	Key	Question Number	Key
1	D	21	A
2	D	22	A
3	B	23	B
4	B	24	D
5	A	25	D
6	B	26	D
7	C	27	B
8	B	28	B
9	C	29	C
10	A	30	B
11	A	31	A
12	B	32	C
13	D	33	A
14	A	34	B
15	C	35	C
16	A	36	A
17	A	37	A
18	B	38	D
19	D	39	A
20	C	40	C

General comments

The more difficult questions either required the consideration of a number of different facts, as in **Questions 5 and 11**, or required the interpretation of information presented in unfamiliar ways, as in **Questions 10, 17 and 26**.

Comments on specific questions

Question 5

Candidates need to know that *Plasmodium* is a protozoan, and as such it would possess a nucleus.

Question 10

This was a difficult question for most candidates. Candidates had to apply their biological knowledge to the problems of astronauts and obtain the 'most likely' results. Astronaut's muscles will not fail to move the bones, and vitamin C will not have an effect on them. Neither is there any reason for iron deposits. The

syllabus objective **3(e)**, that calcium is needed for bone formation, was required in order to complete the question.

Question 11

Candidates appear to have difficulty when needing to consider several facts to arrive at the answer. Rather than carefully consider the four facts given, which in this case were all correct, most candidates appeared to guess.

Question 16

This question proved difficult. The mechanism of breathing is known to be a difficult concept and needs careful attention to the pressure differences involved.

Question 20

That glucagon is needed to replenish glucose when the glucose level falls as shown in the graph between 5.5 and 6 hours, was not deduced by many candidates.

Question 24

There is a common misconception that taste is a stimulus, when in fact taste is the activity of detecting the stimulus of chemicals.

Question 26

Interpretation of a pie chart, rather than a graph of the menstrual cycle was difficult for many candidates. Sector **D**, represented the last part of the cycle where progesterone levels would decrease except if pregnancy occurs. This had to be deduced as less likely, since pregnancy is less likely. The rise in progesterone production would therefore be in sector **C**.

Question 30

This question only tests the fact that snails are the secondary hosts and humans the primary hosts in the *Schistosoma* life cycle. The terms 'primary' and 'secondary' hosts need to be made clear when explaining life cycles to candidates.

Question 34

In the situation shown only spraying houses with insecticide would reduce malaria by killing mosquitoes. Spraying oil is not effective on fast flowing water and mosquito larva would not be present to be eaten by fish.

Question 35

Some candidates may have thought this was a case of active immunity being induced, as is common prior to an infection. However if the wound is already contaminated with soil, such action would be too late and passive immunity is necessary by injecting tetanus antibodies.

Question 38

Candidates need to understand that 'run off' water with fertiliser, will encourage plant growth in a lake because of the additional mineral salts. Many candidates chose option **C** with leaves falling into the lake indicating they did not appreciate that the decomposition of the leaves would take time and be of less value in providing salts.

HUMAN AND SOCIAL BIOLOGY

Paper 5096/13
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8	B	28	B
9	C	29	C
10	A	30	B
11	A	31	A
12	B	32	C
13	D	33	A
14	A	34	B
15	C	35	C
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18	B	38	D
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The more difficult questions either required the consideration of a number of different facts, as in **Questions 5 and 11**, or required the interpretation of information presented in unfamiliar ways, as in **Questions 10, 17 and 26**.

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Candidates need to know that *Plasmodium* is a protozoan, and as such it would possess a nucleus.

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This was a difficult question for most candidates. Candidates had to apply their biological knowledge to the problems of astronauts and obtain the 'most likely' results. Astronaut's muscles will not fail to move the bones, and vitamin C will not have an effect on them. Neither is there any reason for iron deposits. The

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HUMAN AND SOCIAL BIOLOGY

Paper 5096/21

Theory

Key messages

In order to do well in this paper, candidates must be able to demonstrate the following:

- knowledge, understanding and, where appropriate, application of all subject matter tested,
- the ability to handle and interpret information and, where required, to solve problems.

General Comments

In **Sections A, B and C** able candidates were able to meet, and often exceed, the criteria set out above. Their answers, frequently excellent, were accurate, concise and provided sufficient relevant detail to score well. The interpretation of presented information, where required, was both accurate and well-reasoned.

Many other candidates often correctly identified key elements in their answers, but needed to provide greater relevant detail in order to be awarded further credit. On occasion, other candidates correctly identified key elements in their answers but also provided much irrelevant detail. The provision of such detail is not only time consuming for candidates but is not rewarded.

Management of time did not appear to be an issue. The large majority of candidates were able to answer, subject to their knowledge, all questions in the time allowed.

A small number of candidates answered both **Questions 9 and 10 in Section C**.

Comments on specific questions

Section A

Question 1

- (a)
- (i) Surprisingly few candidates were awarded credit for carbon dioxide. Many answers made incorrect reference to red blood cells (given in question) or haemoglobin.
 - (ii) Relatively few candidates (even more able ones) could correctly identify **A, B and C** as phagocyte, lymphocyte and plasma. Surprisingly few candidates were able to link a correct function to **A, B and C**.
- (b) This part of the question was generally well answered, with most candidates receiving full credit.
- (c) This was also generally well answered. Most candidates were able to correctly calculate the percentage loss of oxygen as being 25%.
- (d)
- (i) Whilst many candidates made correct reference to less / lower haemoglobin in candidate **F**, fewer mentioned that iron is a component of haemoglobin.
 - (ii) This part of the question was generally well answered.
- (e) Most candidates provided two pieces of correct evidence to receive full credit. Less able candidates were usually able to identify one piece of correct evidence.

- (f) Many candidates, including some more able ones, did not provide sufficient correct detail. Some candidates were able to correctly interpret information, shown in **Fig. 1.2**, concerning carbon monoxide but did not then link this information to carbon monoxide in cigarette smoke and its effect on haemoglobin and the carriage of oxygen.

Question 2

- (a) A surprisingly small number of candidates were able to correctly label both **N** and **P** as the small intestine/ileum and large intestine/colon respectively. Less able candidates labelled a variety of incorrect structures, including the liver and stomach.
- (b) Some candidates did not provide sufficient correct detail in their answers and so very few were awarded full credit.
- (c) A majority of candidates described the killing action of stomach acid upon bacteria. A significant number of such candidates did not mention the mode of entry of bacteria into the stomach (i.e. in food) and consequently did not gain further credit.

Question 3

- (a) Relatively few candidates correctly labelled **L** (blind spot) and **M** (cornea) in order to gain full credit. The blind spot was most often confused with the yellow spot / fovea, whilst the cornea was most often confused with the iris.
- (b)
- (i) A majority of candidates made incorrect reference to the thinning rather than the thickening of the lens.
 - (ii) Most candidates did not provide answers containing sufficient correct detail to be awarded any credit. A minority of candidates described the roles of ciliary muscles / suspensory ligaments though even when these structures were mentioned, the mechanism of their action was incorrectly described.
 - (iii) The majority of candidates made correct reference to the pupil becoming smaller in diameter (in response to bright light).
 - (iv) As with (ii), most candidates did not provide answers containing sufficient correct detail. Very few candidates made reference to the roles of circular and radial muscles in the iris in reducing the size of the pupil. Even when such muscles were mentioned, the mechanism of their action was incorrectly described. Few candidates made reference to the pupil reflex.

Question 4

- (a) This part of the question was generally well answered. Most candidates were able to transfer the information provided in **Table 4.1** to complete a line graph in **Fig. 4.1**. A majority of candidates were awarded full credit. Amongst other candidates, the most common error was incorrectly labelling the axes of the graph.
- (b) Surprisingly few candidates were able to link the addition of nitrate fertiliser with the enhanced production of amino acids/proteins by plants.
- (c) A majority of candidates gave answers which contained sufficient correct detail to score at least partial credit. Where candidates did make quantitative comparison of the yields using the data presented in **Table 4.1**, many did not add the yield (2200 kg per hectare) from the field with no added fertiliser to the yield (8200 kg per hectare) from the field with 80 kg per hectare added fertiliser. The total yield using this regime was therefore 10 400 kg per hectare.

Question 5

- (a)
- (i) Most candidates correctly identified a correct organism.

- (ii) Surprisingly few candidates, even more able ones, scored highly. Many answers were somewhat sketchy, with lack of sufficient correct detail again being common. Lack of detail of the method of feeding by the fly was especially common.
- (b) Generally well answered, with a majority of candidates able to identify a suitable control for the experiment.

Question 6

- (a) A minority of candidates were unable to interpret the information contained in **Fig. 6.1** to identify that candidate **J** was obese. Most candidates incorrectly selected candidate **H**.
- (b) This question required candidates to interpret information provided in **Table 6.1**. More able candidates could correctly identify all of the required foods to receive full credit. Most of the remaining candidates provided two correct answers and scored accordingly. Weaker candidates had difficulty in the interpretation of the information provided in **Table 6.1**.
- (c) Many candidates gave a correct answer. A significant number of candidates did not describe the nature of fibre, but tended to give imprecise answers e.g. aids digestion.

Section B

Question 7

More able candidates gave full and detailed answers. Many other candidates, however, seemed to find this question to be somewhat challenging. A significant number appeared not to be able to correctly distinguish between heat gain, heat retention and heat loss as required by the question. As a result, many such candidates often provided detailed accounts of mechanisms (vasoconstriction, vasodilation, sweating etc.) in terms which were not relevant or incorrect in the context of the part of the question to which they were referring. It is unclear whether this was due to lack of knowledge/ understanding of the subject material, not having read the question correctly or a combination of both.

Question 8

- (a) This part of the question was capably answered by the majority of candidates who gave accurate and detailed accounts of the functions of the skeleton (support, shape, protection, movement) and usually scored well. Some candidates would have scored more highly if they had amplified their answers by providing more detail of the role of the skeleton in movement e.g. bones as the point of attachment for muscles, bones working as levers.
- (b) More able candidates provided full and detailed answers and scored accordingly. Some candidates gave answers which were characterised by lack of relevant detail (e.g. details of the components of tendons and ligaments) which, if given, would have enhanced their scores. Some less able candidates confused tendons with ligaments e.g. stating that tendons connect bone with bone and/or ligaments join muscle with bone.
- (c) With the exception of the most able candidates, answers to this part of the question tended to be sketchy and lacking in relevant detail. Many candidates correctly mentioned mitochondria but then did not provide any details of how energy (for muscular contraction) is released by the respiration taking place within mitochondria.

Section C

Question 9

- (a) Most candidates provided reasonably full answers to this part of the question. The role of memory cells in immunity was seldom mentioned.
- (b) Most candidates, including the more able ones, found this part of the question to be challenging. It appeared that most candidates had reasonable knowledge of tuberculosis, but very sketchy knowledge of smallpox. As a result, such candidates found it difficult to draw the comparison (as required by the question) between the elimination of the two diseases.

- (c) A large majority of candidates demonstrated in their answers a full and detailed knowledge of the spread and control of HIV.

Question 10

- (a) More able candidates gave full answers to both parts. The answers of many candidates lacked sufficient detail.
- (b) In the large majority of answers, relevant detail of the spread and control of cholera was lacking.
- (c) More able candidates correctly stated two other categories of disease (genetic / inherited, deficiency / nutritional, degenerative, environmental) and gave a suitable example for each of the two categories which they named. Such candidates scored well. Many other candidates did not appear to understand what was meant by categories of disease, and incorrectly gave accounts based upon infectious/transmissible diseases with the result that they did not score highly.

HUMAN AND SOCIAL BIOLOGY

Paper 5096/22

Theory

Key messages

In order to do well in this paper, candidates must demonstrate their ability with regard to the following:-

- knowledge, understanding and, where required, application of all subject matter tested,
- the ability to handle and interpret information and, where required, to solve problems.

General Comments

In **Sections A, B and C** able candidates were able to meet, and often exceed, the criteria set out above. Their answers, frequently excellent, were accurate, concise and provided sufficient relevant detail to score well. The interpretation of presented information, where required, was both accurate and well-reasoned.

Many other candidates often correctly identified key elements in their answers, but needed to provide greater relevant detail in order to achieve further credit. On occasion, other candidates correctly identified key elements in their answers but also provided much irrelevant detail. The provision of such detail is not only time consuming to write but is not rewarded.

Management of time did not appear to be an issue. The large majority of candidates were able to answer, subject to their knowledge, all questions in the time allowed.

A small number of candidates answered both **Questions 9 and 10** in **Section C**.

Comments on specific questions

Section A

Question 1

(a)

- (i) This was well answered by the majority of candidates. Among less able candidates some confusion (e.g. pulmonary vein/artery, left and right sides of heart) was evident.
- (ii) Most candidates correctly identified the tissue at **D** as muscle.
- (iii) Many answers lacked sufficient correct detail (e.g. generation of electrical impulses by the pacemaker to control contraction of heart muscle) to gain full credit. Many candidates were however awarded partial credit.

Parts **(iv)**, **(v)** and **(vi)** were generally well answered by most candidates. Among weaker candidates, there was confusion between bicuspid/tricuspid/semilunar valves and/or the left/right sides of the heart.

(b)

- (i) Most candidates correctly described clots / fatty deposits.
- (ii) Many answers were characterised by lack of sufficient correct detail to be awarded full credit. Candidates often correctly described lack of oxygen, but then did not make the link with respiration in order to gain further credit. Less able candidates often gave vague / non-specific answers.

- (iii) Vague answers, lacking sufficient relevant detail (e.g. reduced contraction of the ventricle) were common.

(c) This was well answered, with many candidates achieving full credit.

Question 2

This question was generally well answered by most candidates. In the majority of cases, candidates were able to correctly identify two organisms for each of the four portals of entry into the body.

Question 3

- (a) Generally well answered. The large majority of candidates were able to use the data in **Table 3.1** to fully and correctly complete **Fig. 3.2** and be awarded full credit. Common errors amongst less able candidates included lack of labelling to axes and omission of data relating to zero cigarettes smoked per day.
- (b) Answers from more able candidates were usually full / logical and scored were awarded full credit. Answers from less able candidates tended to be less precise and lacking in detail.

Question 4

- (a)
- (i) Generally well answered. The ovary was correctly identified by almost all candidates. Whilst a large majority of candidates correctly identified the cervix, some candidates drew a label line which was not sufficiently precise (usually ending in the vagina) to be awarded credit.
- (ii) Most candidates were able to enter the correct number of chromosomes in each box in order to gain full credit. Where incorrect answers were given, they usually involved the boxes for muscle cell of uterus / cell of the uterus lining. In general, this part of the question was well answered with a large majority of candidates being awarded partial credit.
- (iii) Most candidates correctly gave mitosis as the type of nuclear division involved. Less able candidates frequently confused mitosis / meiosis.
- (b)
- (i) A majority of candidates correctly identified dominant.
- (ii) The most able candidates gave clear and logical explanations to explain why the polydactyly allele is dominant, and were awarded full credit. The majority of candidates, however, gave answers which were lacking in sufficient correct detail. It may well be the case that many such candidates did understand the basis of the question but were not able to adequately express their reasoning.

Question 5

- (a)
- (i) Many answers were characterised by sufficient correct detail (chemical / produced by lymphocytes / in response to antigen / specific) to be awarded partial credit. Many candidates made vague references e.g. to 'fighting bacteria'.
- (ii) The most able candidates gave answers which justified awarding full credit. Many other candidates gave answers which lacked sufficient relevant detail specific to the question asked. Numerous candidates simply made reference to 'passive immunity'. Whilst person **R** did indeed possess passive immunity, this was not what the question asked.
- (iii) The response by candidates was very similar to that described in (a)(ii). The most able candidates provided sufficient correct reasoning to correctly answer the question asked, thereby gaining full credit. Numerous candidates simply made reference to 'active immunity'. Whilst person **S** did indeed possess active immunity, this was not what the question asked. The responses from large numbers of candidates to (ii) and (iii) stresses the importance of carefully reading the question asked.

- (b) In general, this was well answered. Most candidates correctly identified natural passive immunity. Some less able candidates confused active/passive immunity and natural/artificial immunity.

Question 6

- (a) This was well answered. Most candidates were able to correctly calculate that sweat constituted 20% of the total water lost per day.
- (b) A majority of candidates correctly identified an increase in volume of water lost on a hot day thereby receiving partial credit. Fewer candidates went on further, correctly linking this increase to cooling/loss of heat.
- (c) Many candidates correctly identified the involvement of water vapour. Fewer candidates gained further credit by making correct reference to the source of the water as being the lung/alveolus.

Section B

Question 7

- (a) Most candidates scored well by correctly outlining two functions of each of the three named groups of macronutrients.
- (b) Well answered. Most candidates gave answers that gained partial credit.
- (c) The most able candidates gave five correct ways of maintaining the vitamin/mineral content of fruit and vegetables during cooking and gained full credit. Many candidates did not provide five different ways and often repeated points. A significant number of candidates did not read the question carefully and gave non-relevant ways (e.g. eat raw food) in their answers.

Question 8

- (a) This part of the question was generally well answered. A large majority of candidates gave precise and accurate accounts of the functions of each of the three types of neurone. The award of full credit was common.
- (b) Many answers contained insufficient relevant detail. Most candidates correctly identified the synapse, but then did not describe the mode of transmission of the impulse across the synaptic gap.
- (c)
- (i) Well answered, with the majority of candidates correctly identifying four short-term effects of the drinking of alcohol upon the body, thereby gaining full credit. Some less able candidates confused short-term effects with long-term effects.
 - (ii) Many answers were characterised by lack of specific detail concerning long-term effects (e.g. brain damage). The provision of such detail would have enhanced many answers.

Section C

Question 9

- (a) More able candidates gave full and correctly detailed accounts of the roles of the liver and pancreas in the digestion of food in the small intestine. Other candidates provided answers which tended to be somewhat patchy. In many cases the role of bile was well described, but detail concerning pancreatic enzymes (amylase, protease/trypsin, lipase) and their actions (substrates, products) was lacking.
- (b) This was generally well answered, with many candidates providing much correct and relevant detail concerning the roles of insulin and glucagon in the control of blood glucose concentration. A majority of candidates were awarded full credit.

- (c) With the exception of the most able candidates, answers generally lacked sufficient detail to score highly. Very few candidates scored were awarded full credit. The role of the assimilation of the products of digestion appeared to be less well understood than other aspects of digestion.

Question 10

- (a) Most candidates provided adequate answers. The role of bile in the digestion of fat was generally fully described, whereas accounts of the enzymic digestion of fat were often less detailed. The location of the stages of the digestion of fat (mouth, stomach, duodenum, small intestine / ileum) were often omitted and/or poorly described. This was especially true of the roles of the mouth and stomach.
- (b) Many candidates gave correct accounts of the stages in protein digestion, with much relevant and correct detail provided. Less able candidates frequently confused the substrates and products of proteolytic enzymes (pepsin / trypsin / protease / enterokinase).
- (c) More able candidates often provided full and correctly detailed explanations of how the chemical products of the digestion of fats and proteins are absorbed into the body, often gaining full credit. Some less able candidates did not provide sufficient (or confused) detail concerning the roles of villi, capillaries and lacteals in the absorption process. Many candidates did not correctly identify the location (small intestine / ileum) of the absorption process.

HUMAN AND SOCIAL BIOLOGY

Paper 5096/23

Theory

Key messages

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General Comments

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A small number of candidates answered both **Questions 9 and 10** in **Section C**.

Comments on specific questions

Section A

Question 1

(a)

- (i) This was well answered by the majority of candidates. Among less able candidates some confusion (e.g. pulmonary vein/artery, left and right sides of heart) was evident.
- (ii) Most candidates correctly identified the tissue at **D** as muscle.
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- (i) Most candidates correctly described clots/fatty deposits.
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(c) This was well answered, with many candidates achieving full credit.

Question 2

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Question 3

- (a) Generally well answered. The large majority of candidates were able to use the data in **Table 3.1** to fully and correctly complete **Fig. 3.2** and be awarded full credit. Common errors amongst less able candidates included lack of labelling to axes and omission of data relating to zero cigarettes smoked per day.
- (b) Answers from more able candidates were usually full / logical and scored were awarded full credit. Answers from less able candidates tended to be less precise and lacking in detail.

Question 4

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Question 6

- (a) This was well answered. Most candidates were able to correctly calculate that sweat constituted 20% of the total water lost per day.
- (b) A majority of candidates correctly identified an increase in volume of water lost on a hot day thereby receiving partial credit. Fewer candidates went on further, correctly linking this increase to cooling/loss of heat.
- (c) Many candidates correctly identified the involvement of water vapour. Fewer candidates gained further credit by making correct reference to the source of the water as being the lung/alveolus.

Section B

Question 7

- (a) Most candidates scored well by correctly outlining two functions of each of the three named groups of macronutrients.
- (b) Well answered. Most candidates gave answers that gained partial credit.
- (c) The most able candidates gave five correct ways of maintaining the vitamin/mineral content of fruit and vegetables during cooking and gained full credit. Many candidates did not provide five different ways and often repeated points. A significant number of candidates did not read the question carefully and gave non-relevant ways (e.g. eat raw food) in their answers.

Question 8

- (a) This part of the question was generally well answered. A large majority of candidates gave precise and accurate accounts of the functions of each of the three types of neurone. The award of full credit was common.
- (b) Many answers contained insufficient relevant detail. Most candidates correctly identified the synapse, but then did not describe the mode of transmission of the impulse across the synaptic gap.
- (c)
- (i) Well answered, with the majority of candidates correctly identifying four short-term effects of the drinking of alcohol upon the body, thereby gaining full credit. Some less able candidates confused short-term effects with long-term effects.
 - (ii) Many answers were characterised by lack of specific detail concerning long-term effects (e.g. brain damage). The provision of such detail would have enhanced many answers.

Section C

Question 9

- (a) More able candidates gave full and correctly detailed accounts of the roles of the liver and pancreas in the digestion of food in the small intestine. Other candidates provided answers which tended to be somewhat patchy. In many cases the role of bile was well described, but detail concerning pancreatic enzymes (amylase, protease / trypsin, lipase) and their actions (substrates, products) was lacking.
- (b) This was generally well answered, with many candidates providing much correct and relevant detail concerning the roles of insulin and glucagon in the control of blood glucose concentration. A majority of candidates were awarded full credit.

- (c) With the exception of the most able candidates, answers generally lacked sufficient detail to score highly. Very few candidates scored were awarded full credit. The role of the assimilation of the products of digestion appeared to be less well understood than other aspects of digestion.

Question 10

- (a) Most candidates provided adequate answers. The role of bile in the digestion of fat was generally fully described, whereas accounts of the enzymic digestion of fat were often less detailed. The location of the stages of the digestion of fat (mouth, stomach, duodenum, small intestine / ileum) were often omitted and/or poorly described. This was especially true of the roles of the mouth and stomach.
- (b) Many candidates gave correct accounts of the stages in protein digestion, with much relevant and correct detail provided. Less able candidates frequently confused the substrates and products of proteolytic enzymes (pepsin/trypsin/protease/enterokinase).
- (c) More able candidates often provided full and correctly detailed explanations of how the chemical products of the digestion of fats and proteins are absorbed into the body, often gaining full credit. Some less able candidates did not provide sufficient (or confused) detail concerning the roles of villi, capillaries and lacteals in the absorption process. Many candidates did not correctly identify the location (small intestine/ileum) of the absorption process.