



KEY SKILLS COMMUNICATION
Level 3 - Chip Technology and the Human Body

June 2004

Final Mark Scheme

As agreed 23 June

Part A - short-answer questions

Q1 Using documents 1 and 2, briefly identify four ways in which silicon chip implants could benefit humans.

Coverage	Marking guide	Marks	Max Marks
3.2.1	Candidate has selected relevant information from documents 1 and 2.	1 mark	1 mark
3.2.2	Candidate has identified ways that implants could benefit humans, eg: (a) improved hearing (doc 1) (b) improving eyesight (doc 1) (c) ID chips to hold personal data (doc 1) (d) ID chips to hold medical data (doc 1) (e) Control prosthetic limbs (doc 1) (f) Remove the effects of pain (doc 2) (g) Improve memory (doc 1 and 2) (h) Communicate by thought signals (doc 1 and 2) Accept any other valid point from documents 1 and 2	1 mark per way (max 4 marks)	4 marks
Total for Question			5 marks

Q2 Using information from all three documents, explain three potential problems with the use of implants and in your own words, assess to what extent these are balanced by the potential benefits.

Coverage	Marking guide	Marks	Max Marks
3.2.1	Candidate has selected relevant information from all 3 documents.	1 mark	1 mark
3.2.2	Candidate has explained three potential problems, eg: (a) People dislike surgery (doc 1) (b) Permanent implants cannot be removed to be repaired/updated (doc 1) (c) Complexity of the brain makes implanting difficult (doc 1) (d) Messages can be misinterpreted (doc 2) (e) Moral and ethical issues (doc2 3) (f) Risk to personal privacy (doc 3) (g) High cost (doc 3) (h) Children can be tracked by anyone (doc 3) Any other valid problem identified in the documents	1 mark per problem (max 3 marks)	3 marks
3.2.3	Candidate has synthesised information from the documents to assess the extent to which the problems are balanced by the potential benefits.	Up to 3 marks	3 marks
Total for Question			7 Marks

Q4 Using documents 1 and 2, identify three of Professor Warwick's stated goals. Explain in your own words the extent to which the material in all three documents supports these goals.

Coverage	Marking guide	Marks	Max Marks
3.2.1	Candidate has selected relevant information from all three documents	1 mark	1 mark
3.2.2	Candidate has identified the goals, eg: (a) Achieve exceptional powers (doc 1) (b) Take science forward (docs 1 and 2) (c) Help others (docs 1 and 2) (d) Speed human change (evolution is slow) (doc 2) (e) Test potential of implant technology (doc 1 and 2) (f) Improve communication (doc 2)	1 mark per goal (max 3 marks)	3 marks
3.2.3	Candidate has explained the extent to which the evidence presented in the documents supports Warwick's goals. For example: <ul style="list-style-type: none"> • his main focus is on super-human ability not health, but much of the developmental work of others is around benefits to health and well being. • he wants to improve communication, but the brain is a very complex area that is difficult to understand • people will not opt for implant surgery when external devices that do a similar job are available. <p>Accept any valid explanation.</p>	Up to 3 marks	3 marks
Total for Question			7 Marks

Total for Part A 25

Q5 Write a structured report on chip technology and the human body for the Chief Executive of your local hospital trust. Your report should adopt a balanced approach to the subject and:

- explain the progress made to date
- highlight any areas of controversy
- comment on the future for chip technology and the human body

Your report should be based on information from the documents.

Coverage	Marking guide	Marks	Max Marks
3.3.1	<p>Candidate has:</p> <ul style="list-style-type: none"> • selected an appropriate form of structured report for presenting the information which includes heading and at least one sub-heading. • used an appropriate style and structure to add clarity to the text (for example the use of paragraphs, indentation, numbering, bullet points and other stylistic features) • used a formal tone in writing. 	<p>1 mark</p> <p>1 mark</p> <p>1 mark</p>	3 marks
3.3.2	<p>Candidate has:</p> <ul style="list-style-type: none"> • used own words in an effective manner to present relevant information • used specialist vocabulary appropriately, eg cybernetics, prosthetics, robotic implants • demonstrated an understanding of the progress made to date with chip technology and the human body • highlighted areas of controversy associated with chip technology • commented on the future of chip technology and the human body • adopted a balanced approach 	<p>Up to 3 marks</p> <p>Up to 2 marks</p> <p>Up to 2 marks</p> <p>Up to 3 marks</p> <p>Up to 2 marks</p> <p>1 mark</p>	

3.3.3	<p>Band 1 The candidate spells, punctuates and uses grammar with reasonable accuracy eg.</p> <ul style="list-style-type: none"> the spelling of simple words is usually accurate full stops and capital letters are accurately used to demarcate sentences. Commas in lists are used accurately. there may be some grammatical errors, eg confusion of pronouns, tense and some lack of cohesion. 	1-3 marks	
	<p>Band 2 The candidate spells, punctuates and uses grammar with considerable accuracy eg</p> <ul style="list-style-type: none"> the spelling of words with complex regular patterns is usually accurate a range of punctuation including commas, apostrophes and inverted commas is used correctly including to mark sentences and clauses the work is mostly grammatically accurate showing that the candidate can construct complex sentences accurately, use pronouns so that their meaning is clear, makes accurate subject/verb agreement and uses tenses accurately and consistently, although there may be occasional errors of sentence separation. 	4-7 marks	
	<p>Band 3 The candidate spells, punctuates and uses the rules of grammar with almost faultless accuracy eg</p> <ul style="list-style-type: none"> virtually all spelling, including that of irregular words is usually correct. Any errors stand out as untypical or 'one-off' slips punctuation is accurate and is used to vary pace, clarify meaning, avoid ambiguity and create deliberate effects grammar is accurate and gives appropriate variation in sentence structure. 	8-9 marks	9 marks
Total for Question			25 marks

Total for Part B 25

TOTAL MARKS FOR TEST 50

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