



GADGETS AND FREAKY INVENTIONS

*A sample test of
academic literacy
levels*

ABSTRACT

This sample test will give you an idea of what to expect if you have to write a test of academic literacy.

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Gadgets and freaky inventions

Scrambled text

The sequence of the sentences in the following has been altered. Say what the correct order is by marking your choice on the loose answer sheet.

Why patent your invention?

- A. The reason to patent your invention is to give the owner (you) the exclusive right to commercially exploit the invention for the life of the patent (usually 20 years).
- B. So you've invented the next big something, it's revolutionary, it's cheap to make and everyone will want one so you want to put it on the market.
- C. When you have finally patented your new masterpiece, you will be the only lucky one that will be able to benefit from it.
- D. But wait a minute, before you can start the production lines rolling, you've got to protect it from someone else who thinks your idea will make them a fortune too.
- E. The first thing you need to do before you start dreaming about the millions you can make, you have to protect it by patenting it.

[Adapted from <http://www.abc.net.au/tv/newinventors/txt/s1097642.htm>, *How to patent your invention*. Accessed 17 August 2010]

- | | | | | | |
|---|----------|----------|----------|----------|----------|
| 1. Which sentence did you put first ? | A | B | C | D | E |
| 2. Which sentence did you put second ? | A | B | C | D | E |
| 3. Which sentence did you put third ? | A | B | C | D | E |
| 4. Which sentence did you put fourth ? | A | B | C | D | E |
| 5. Which sentence did you put fifth ? | A | B | C | D | E |

[5]

Vocabulary knowledge

Choose the best possible answer from the list of options:

6. To patent an invention is a great _____ for any inventing genius.
 - A. bereavement
 - B. achievement
 - C. endorsement
 - D. inducement

7. In order for any inventor to make a success of an invention he/she has to be _____ to the process.
- A. addicted
 - B. connected
 - C. committed
 - D. indented
8. A successful invention to an inventor is the _____ of a gold medal to an Olympic athlete.
- A. equivalent
 - B. equatorial
 - C. equilateral
 - D. equivocation
9. It is commonly believed that the popularity of gadgets and freaky inventions _____ to the growing influence of sophisticated technology on our lives.
- A. contravenes
 - B. contributes
 - C. contrives
 - D. contradicts
10. Gadgets and inventions often _____ an inventor's passion for the art of inventing.
- A. distract
 - B. dissolve
 - C. display
 - D. dissipate
11. Inventors often _____ an entire lifetime to complete one single invention.
- A. involve
 - B. invade
 - C. invoke
 - D. invest
12. During the testing of a good number of inventions the results sometimes _____ even the inventor's expectations.
- A. exceed
 - B. impede
 - C. recede
 - D. succeed

13. While some gadgets _____ an almost instantaneous buzz of excitement, others take a while to catch on.
- A. generate
 - B. operate
 - C. aggregate
 - D. integrate
14. Some gadgets are completely innovative, while others _____ from previous inventions that have been improved.
- A. delegate
 - B. detract
 - C. derive
 - D. descend
15. The continuous development of technology _____ the process of inventing through the ever changing opportunities that it presents.
- A. dominates
 - B. demonstrates
 - C. determines
 - D. detriments
16. _____ cell phones such as the iPhone are mere improvements to the original invention.
- A. Subliminal
 - B. Subsequent
 - C. Subordinate
 - D. Submissive
17. Inventions and gadgets are not simply things that make life interesting, but also contribute to a country's _____.
- A. revenue
 - B. revival
 - C. revision
 - D. reversion
18. Many gadgets are invented in order to be able to _____ technology with comfort.
- A. intensify
 - B. interfere
 - C. integrate
 - D. interject

19. The ability to _____ a simple idea into a mind-blowing invention is an art that only truly genius inventors are able to perfect.
- A. inform
 - B. transform
 - C. conform
 - D. deform
20. The processes that _____ the actual building of a gadget is often where the invention succeeds or fails.
- A. preclude
 - B. prescribe
 - C. preserve
 - D. precede
21. One invention often _____ the introduction of another, which results in technology being pushed even further.
- A. initiates
 - B. mediates
 - C. arrogates
 - D. rotates
22. It is very clear that one cannot _____ the process of inventing as it feeds off reality, the development of technology, etc.
- A. communicate
 - B. deviate
 - C. isolate
 - D. interrogate
23. It is often the case that inventors change and adapt their gadgets or inventions in order to _____ their potential and abilities.
- A. compromise
 - B. internalise
 - C. familiarise
 - D. maximise
24. There are cases where one invention's sole purpose is to _____ the invention that preceded it.
- A. substitute
 - B. subsidize
 - C. submerge
 - D. subdue

25. Some gadgets do not take off as well as others because the inventors do not _____ their opportunities as they should.
- A. utilize
 - B. memorise
 - C. analyse
 - D. visualise

[20]

Verbal reasoning

Consider each of the following, then answer by selecting the right option:

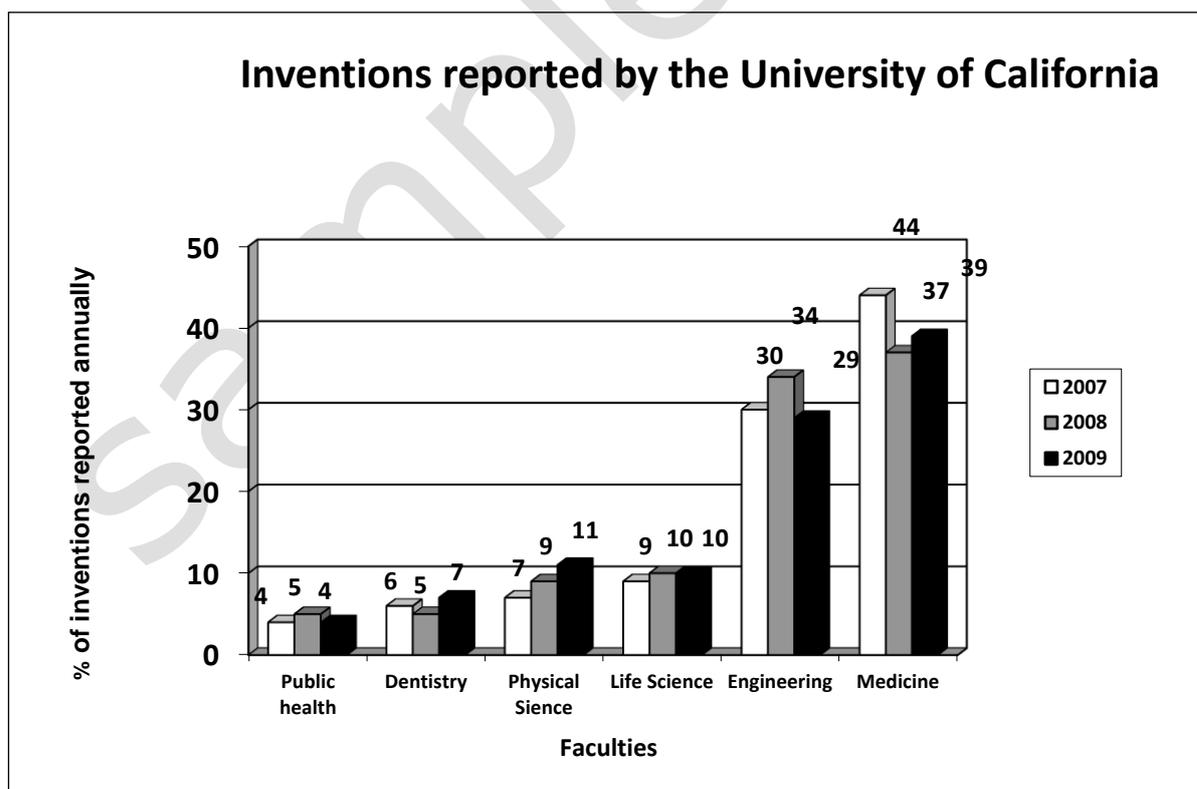
26. Clarkson informed the media that he will no longer make any statements regarding his newly invented gadget, claiming that he would “demonstrate its capabilities” when the time is ripe. Whether that will happen remains to be seen. This implies that
- A. the author is probably sceptical of Clarkson’s claim.
 - B. the time is not right for Clarkson to show his gadget yet.
 - C. the author is careful to quote Clarkson’s direct words.
 - D. Clarkson will definitely show off his gadget eventually.
27. Cell phones are widely seen as the invention with the greatest potential to carry on as the main means of communication in the foreseeable future. One can conclude from this that
- A. no other means of communication than cell phones is ever likely to withstand the ultimate test of time.
 - B. cell phones are unlikely to last as a means of communication because of the development of alternatives.
 - C. means of communication is unlikely to be affected by cell phones because of the development of alternatives.
 - D. cell phones are the most likely means of communication that will withstand the test of time.
28. Uncertainty lurks around just about any corner of the inventing process. This means that
- A. uncertainty hides effectively in every part of the inventing process.
 - B. every component of the inventing process is haunted by something.
 - C. there is no certainty in the process of inventing and it is widespread.
 - D. eliminating uncertainty is the biggest challenge inventors can think of.

29. Johnson and Mills claim that “this is the ultimate invention in its field!” The implication of a claim such as this one is that it
- leaves no room for interpretation.
 - leaves no room for future improvements.
 - is too confident for the world of inventing.
 - is not at all confident enough.
30. “Sugar is sweet, but the taste of a successful invention is heavenly.” This means that
- no taste comes close to that of an invention.
 - even sugar is not as good as an invention.
 - the feeling of success is better than sugar.
 - inventors like the taste of success more than anything.

[5]

Interpreting graphs and visual information

Study the following graph, that summarises the annual invention reports of the University of California from 2008-2010, before you answer the questions below. The percentage of inventions refers to the proportion of the contribution of inventions of each faculty to the UCLA total.



[Adapted from www.researchucla.edu. Accessed 16 August 2010. Some data altered/fictitious]

31. The Faculties of Public Health, Dentistry, Physical Science and Life Science together reported the same % inventions in 2008 as the faculty of _____ reported in 2009 alone.
- A. Physical Science
 - B. Life Science
 - C. Engineering
 - D. Medicine
32. The Faculty of Medicine reported the same % of inventions in 2007 as which of the following pairs of faculties reported together in 2008?
- A. Public Health and Life Science
 - B. Medicine and Engineering
 - C. Life Science and Engineering
 - D. Engineering and Public Health
33. The only faculty with a steady increase over all three years is _____.
- A. Public Health.
 - B. Life Science.
 - C. Physical Science.
 - D. Medicine
34. If this steady increase mentioned above continues, the forecast for that faculty for 2010 would be _____.
- A. 10%.
 - B. 13%.
 - C. 16%.
 - D. 19%.
35. The only faculty that followed the same pattern as the Faculty of Medicine is _____.
- A. Public Health
 - B. Dentistry
 - C. Physical Science
 - D. Life Science
36. In which year was the Faculty of Life Science's % of reports double the % of reports of the Faculty of Dentistry?
- A. 2007
 - B. 2008
 - C. 2009
 - D. 2010

37. In which year did the Faculties Dentistry and Life Science together have 50% of the % of reports of the Faculty of Engineering?
- A. 2007
 - B. 2008
 - C. 2009
 - D. 2010
38. During 2007 the Faculty of Medicine reported _____ times more inventions than the Faculty of Public Health.
- A. 7
 - B. 9
 - C. 11
 - D. 13
39. The difference between the % of reports for 2008 between the Faculties of Engineering and Medicine is the same as the difference between the % of reports in 2009 between the faculties _____
- A. Dentistry and Life Science.
 - B. Dentistry and Physical Science.
 - C. Dentistry and Engineering.
 - D. Dentistry and Medicine.
40. During 2009 the Faculty of Medicine reported the same % of inventions as which of the following faculties combined?
- A. Engineering and Life Science
 - B. Physical Science and Engineering
 - C. Dentistry and Physical Science
 - D. Dentistry and Life Science

[10]

Register and text type

The sentences below are examples of different text types, such as advertisements, instruction manuals, academic textbooks and the like. You must match an item from the first set (41-45) with an item from the second set (A-E). For example, if you think that the language of 42 comes from the same text type as B, then mark 42 B as your answer.

41. ANC to 'protect' image!
 42. 10 Easy steps to becoming a better you.
 43. Do not use continuously for more than ten days.
 44. I have been struggling with my blood sugar. The doctor put me on medication.
 45. Using your body weight, push into the victim's upper abdomen with quick, forceful thrusts.
-
- A. The 5 things to remember when planning your budget.
 - B. He has this awful pressing feeling in his chest. He thinks it's caused by stress.
 - C. Kebble death "needed to look like a hit".
 - D. Place yourself behind the person who is choking and place your arms around his/her waist.
 - E. Keep out of reach of children.

[5]

Text comprehension

Read the text below, then answer the questions that follow.

SixthSense blurs digital and the real

How SixthSense works

LAPTOPS AND SMARTPHONES ALLOW easy access computing power, but researchers at the Massachusetts Institute of Technology want to go one step further by turning the entire world into a computer.

2 At this year's (2008) Computer-Human Interaction (CHI) conference in Boston, the Fluid Interfaces Group at MIT's Media Lab unveiled the latest prototype of SixthSense, a wearable, gesture-driven computing platform that can continually augment the physical world with digital information.

3 Imagine being able to check your email on any blank wall, simply by drawing an @ sign in the air with your finger, or being able to check the time by using that same finger to draw a circle, which produces the image of an analogue watch right on your wrist. You want to take a digital photograph? Just put your thumbs and forefingers together to make a picture frame. Better yet, imagine a system that can display the reason for your flight delay directly on the boarding pass you are holding in your hand.

4 "We're trying to make it possible to have access to relevant information in a more seamless way," says Dr Pattie Maes, who heads the Fluid Interfaces Group at MIT. "We have a vision of a computing system that understands, at least to some extent, where the user is, what the user is doing, and who the user is interacting with," says Dr. Maes.

5 The SixthSense prototype has changed since it was first introduced to the public last year. Originally, it consisted of a web camera strapped to a bicycle helmet. But the current prototype promises to be a bit more consumer friendly. It consists of a small camera-projector combination (about the size of a cigarette pack) worn around the neck of the user. An accompanying smartphone runs the SixthSense software, and handles the connection to the internet.

6 "You can turn any surface around you into an interactive surface," says Pranav Mistry, an MIT graduate student working on the SixthSense project. "Let's say I'm in a bookstore, and I'm holding a book. SixthSense will recognize that, and will go up to Amazon. Then, it will display online reviews of that book, and prices, right on the cover of the book I'm holding." Mistry notes that the system is customisable as well, so that if you don't want Amazon reviews of a book, you could choose instead to find out what the *New York Times* thinks of it.

7 The hardware included in the SixthSense system is not that expensive. The current prototype costs about \$350 to build. But this attempt to merge the digital world with the physical world requires some serious programming and engineering. "All the work is in the software," says Dr Maes. "The system is constantly trying to figure out what's around you, and what you're trying to do. It has to recognize the images you see, track your gestures, and then relate it all to relevant information at the same time."

8 Pranav Mistry sees some commercial applications for the system in the near future. For example, he wants to develop a sign language application that would "speak out" a translation while someone was signing.

9 And if SixthSense catches on, what will we all make of the sight of dozens of people checking their e-mails on the walls of airports and train stations? Dr. Pattie Maes laughs: "Well, I think it might actually be more socially acceptable than those Bluetooth earpieces people use these days. At least with our system you can actually see that people are interacting with information, instead of watching someone that looks like they're just talking to themselves on a street."

[Adapted from www.InventHelp.com. Accessed August 16, 2010]

46. From the title one can conclude that SixthSense
- A. makes the digital world less clear.
 - B. makes reality seem blurry and unclear.
 - C. merges the digital world and reality.
 - D. blanks the digital world out of reality. (2)
47. The phrase “turning the entire world into a computer” in paragraph 1 means that
- A. the earth as a whole works as a computer.
 - B. everything can form part of this computer.
 - C. the earth is controlled by a computer.
 - D. the world is nothing but a computer. (2)
48. The word ‘unveiled’ in paragraph 2 means that
- A. SixthSense was eventually shown in public.
 - B. a veil was removed at the conference.
 - C. there was a bride at the conference.
 - D. a protecting veil was draped over SixthSense. (1)
49. A good description of what SixthSense does, is given in paragraph ____
- A. 1
 - B. 2
 - C. 3
 - D. 4 (2)
50. The word ‘augment’ in paragraph 2 means to _____ of the physical world
- A. adapt to another form
 - B. change the perception
 - C. change the reality
 - D. increase the quality (1)
51. The phrase “gesture driven” in paragraph 2 is best supported and explained by paragraph ____
- A. 1.
 - B. 2.
 - C. 3.
 - D. 4. (2)

52. SixthSense has a number of functions that can make day-to-day life easier. Which of the following is the odd one out?
- A. Checking emails anytime, anywhere.
 - B. Capturing memories without a camera.
 - C. Helping you understand why your flight is late.
 - D. Turning the entire world into a computer. (2)
53. The word ‘that’ in the first sentence of paragraph 3 refers to
- A. “your email”
 - B. “an @ sign”
 - C. “your finger”
 - D. “check the time” (1)
54. The phrase “to have access to relevant information” in paragraph 4 is related to the phrase
- A. “easy access computing” in paragraph 1.
 - B. “go one step further” in paragraph 1.
 - C. “gesture driven computing” in paragraph 2.
 - D. “a system that can display” in paragraph 3. (1)
55. The word ‘vision’ in paragraph 4 means
- A. they use their eyes to see the system.
 - B. it is at this stage only an idea.
 - C. the idea came to them in a dream.
 - D. it is a picture on a television screen. (1)
56. One can conclude from paragraph _____ that SixthSense is a project that the Fluid Interfaces Group has been working on for quite some time.
- A. 5
 - B. 4
 - C. 3
 - D. 2 (2)
57. The phrase “last year” in paragraph 5 refers to the year
- A. 2010
 - B. 2009
 - C. 2008
 - D. 2007 (2)
58. The original prototype was changed because it
- A. didn’t work.
 - B. wasn’t user-friendly.
 - C. was too complicated.
 - D. was insufficient. (2)

59. The software of SixthSense works through
- A. the internet.
 - B. a camera projector.
 - C. a smartphone.
 - D. a web camera.
- (1)
60. Pranav Mistry is
- A. the inventor of SixthSense.
 - B. the developer of the software.
 - C. a professor at MIT.
 - D. one of a team working on SixthSense.
- (2)
61. The word 'it' in the fourth sentence of paragraph 6 refers to
- A. MIT.
 - B. SixthSense.
 - C. the software.
 - D. a book.
- (1)
62. The word 'notes' in paragraph 6 means that Mistry
- A. is taking down notes.
 - B. is writing himself a reminder.
 - C. gives written acknowledgement.
 - D. mentions extra information.
- (1)
63. SixthSense consists of various components. Which of the following is the most inexpensive component? The
- A. system.
 - B. prototype.
 - C. software.
 - D. hardware.
- (2)
64. The word 'It' in the last sentence of paragraph 7 refers to the
- A. software.
 - B. system.
 - C. hardware.
 - D. prototype.
- (1)
65. In the phrase "relate it" in the last sentence of paragraph 7, the word 'it' refers to
- A. the way the prototype works in a general sense.
 - B. how the images of the user is recognised.
 - C. the tracked gestures and images of the user.
 - D. the way the software relates things to information.
- (1)
66. From the first sentence of paragraph 8 one can conclude that
- A. other practical functions could well be added to SixthSense.

- B. SixthSense could be sold commercially when it has been completed.
 - C. SixthSense would only be worthwhile once it is sold commercially.
 - D. if any additions were made to SixthSense, they would be able to sell it.
- (2)

67. The word 'signing' in paragraph 8 refers to

- A. someone signing autographs.
- B. a contract being signed.
- C. the language: Sign language.
- D. a message board signalling something.

(1)

68. The word 'it' in the second sentence of paragraph 9 refers to

- A. SixthSense catching on and being successful.
- B. the sight of people checking their emails on walls.
- C. the sign language application that is being developed.
- D. The Bluetooth earpieces people are currently using.

(1)

69. The phrase "our system" in paragraph 9 refers to

- A. the software.
- B. the hardware.
- C. the smartphones.
- D. SixthSense.

(1)

[35]

Grammar and text relations

In the text below some words have been deleted. First read through the whole text, then answer the questions that follow.

The Uno – It's Unique – but can it pop a Wheelie?

The 2008 National Motorcycle Show in Toronto has always been heavily influenced by the American V-twin crowd. It highlights of the area's top custom builders who have on display a fine array of one-off custom machines.

This year's, however, had one very unusual one-off custom, the Uno. The orange and grey coloured Uno made first public appearance balanced on its two side-by-side wheels and its footpegs. Looking more like it should have ridden by George Jetson as he pulled up to his space platform, it looked out of place amid the other custom creations in the building.

Operation of the 54.4 kg (120 lb) is simple; in fact it's so simple there are no controls except for an on-off switch. To go forward you simply push your body weight forward to tilt the machine. To back up, just lean back on the seat to tilt backwards and back it goes. The farther you lean, the faster it accelerates. The gyro tells the ECU how much to accelerate and that in turn delivers the proper amount of current to the electric motors, one for each wheel.

If likened it to being a fancy Segway, Ben will quickly correct you. "It's much more complicated than a Segway. The Segway uses a hand control to turn left or right. On the Uno, you need to lean in the direction you wish to go. If you want to turn right you just lean right." The independent suspension allows the unit to lean like a motorcycle during a turn. The wheel will then compress the suspension so the wheel moves up inside the body while the outer wheel continues to make contact with the ground. The gyro detects the sideways motion and instructs the ECU accordingly. Since each wheel has its electric motor, the outer wheel speeds up in order to complete the turn.

If the rider is forward and needs to stop, he simply leans back. The electric motors have inherently high torque so stopping is very quick. If you continue to lean backward, the Uno will go backwards. All the while, the Uno feels quite stable. A full battery pack will provide about 3 hours of time and charging time is only 17 minutes if using a fast charger.

[Adapted from Motorcycle Mojo Magazine, May 2008 edition, *The Uno – It's Unique – but can it pop a Wheelie?* Accessed 16 August 2010]

In the following texts, you have to indicate the possible place where a word may have been deleted, and which word belongs there. Here are two examples:

The 2008 National Motorcycle Show in Toronto has always been heavily influenced by the American V-twin crowd. It highlights [i] of the [ii] area's top [iii] custom builders who [iv] have on display a fine array of one-off custom machines.

This [i] year's [ii], however, [iii] had one [iv] very unusual one-off custom, the Uno.

Where has the word been deleted?

- A. At position (i).**
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

Which word has been left out here?

- A. also
- B. some**
- C. surrounding
- D. professional

Where has the word been deleted?

- A. At position (i).
- B. At position (ii).**
- C. At position (iii).
- D. At position (iv).

Which word has been left out here?

- A. show**
- B. constantly
- C. quirky
- D. random

Now answer the following questions in the same way:

The ^{70&71} [i] orange and [ii] grey coloured Uno made [iii] first public appearance balanced [iv] on its two side-by-side wheels and its footpegs. Looking ^{72&73} [i] more like it should [ii] have [iii] ridden by George Jetson as he [iv] pulled up to his space platform, it looked out of place amid the other custom creations in the building.

70. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

71. Which word has been left out here?

- A. its
- B. bright
- C. only
- D. dull

72. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

73. Which word has been left out here?

- A. mysteriously
- B. actually
- C. creatively
- D. been

Operation ^{74&75} **i** of the 54.4 kg (120 lb) **ii** is simple; **iii** in fact **iv** it's so simple there are no controls except for an on-off switch. To go forward you simply push your body weight forward to tilt the machine. To back up, ^{76&77} **i** just lean back **ii** on the seat to tilt **iii** backwards and **iv** back it goes. The farther you lean, the faster it accelerates. The gyro tells the ECU how much to accelerate and that in turn delivers the proper amount of current to the electric motors, one for each wheel.

74. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

75. Which word has been left out here?

- A. honestly
- B. and
- C. one
- D. machine

76. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

77. Which word has been left out here?

- A. it
- B. way
- C. you
- D. completely

If ^{78&79} **i** likened it to being **ii** a fancy **iii** Segway, **iv** Ben will quickly correct you. "It's much more complicated than a Segway. The Segway uses a hand control to turn left or right. On the ^{80&81} **i** Uno, you **ii** need to lean **iii** in the direction you **iv** wish to go. If you want to turn right you just lean right." The independent suspension allows the unit to lean like a motorcycle during a turn.

78. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

79. Which word has been left out here?

- A. then
- B. you
- C. just
- D. alternative

80. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

81. Which word has been left out here?

- A. directly
- B. really
- C. impressive
- D. just

The ^{82&83} **i** wheel will then **ii** compress the **iii** suspension so the **iv** wheel moves up inside the body while the outer wheel continues to make contact with the ground. The gyro ^{84&85} **i** detects the sideways motion **ii** and instructs the ECU accordingly. Since each wheel **iii** has its **iv** electric motor, the outer wheel speeds up in order to complete the turn.

82. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

83. Which word has been left out here?

- A. automatically
- B. only
- C. inner
- D. front

84. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

85. Which word has been left out here?

- A. first
- B. automatically
- C. own
- D. generally

If the rider is ^{86&87} **i** forward and **ii** needs to stop, he simply leans **iii** back. The electric motors **iv** have inherently high torque so stopping is very quick. If you continue to lean backward, the Uno will go backwards. All the while, the Uno ^{88&89} **i** feels quite stable. A full battery **ii** pack will provide **iii** about 3 hours of **iv** time and charging time is only 17 minutes if using a fast charger.

86. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

87. Which word has been left out here?

- A. will
- B. moving
- C. urgently
- D. comfortably

88. Where has the word been deleted?

- A. At position (i).
- B. At position (ii).
- C. At position (iii).
- D. At position (iv).

89. Which word has been left out here?

- A. travel
- B. and
- C. nearly
- D. totally

[20]

TOTAL: 100