UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

THINKING SKILLS **9694/43**

Paper 4 Applied Reasoning **May/June 2012**

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper

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READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the booklet.
Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE ON ANY BARCODES.

Answer **all** the questions.
Start each question on a new answer sheet.

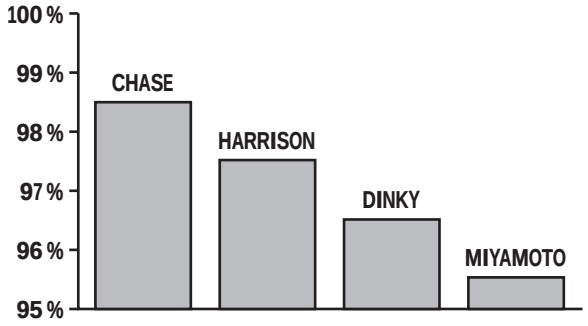
At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question.

This document consists of **7** printed pages and **1** blank page.

UNIVERSITY of CAMBRIDGE International Examinations

1 *Study the advertisement below and answer the questions that follow.*

Percentage of trucks sold over the last 10 years that are still on the road



More than 98% of all Chase trucks sold in the last 10 years are still on the road - no other truck is that reliable.

Research shows that Chase trucks are the most recognised and the highest-prized brand of automobiles in some parts of the country.

Our satisfied customers say:
"Best full-size pickup in initial quality" – A Flintoff & Co.
"Best truck line overall in sales satisfaction" – A Flintoff & Co.

Chase – the most reliable, longest-lasting trucks.

SOLID AS A ROCK!

(a) Suggest **three** criticisms of the data used in the advertisement and/or their presentation in the bar chart. [3]

(b) "Chase – the most reliable, longest-lasting trucks. Solid as a rock!"

From the information given in the advertisement, how reasonably can this claim be inferred? Briefly explain your answer. [2]

Questions 2, 3 and 4 refer to Documents 1 to 4.

2 Briefly analyse Thomas Hazlett's argument in Document 1: *Slipping Rank*, by identifying its main conclusion and main reasons, as well as any intermediate conclusions and counter-arguments. [6]

3 Give a critical evaluation of Hazlett's argument in Document 1: *Slipping Rank*, by identifying and explaining strengths, weaknesses, implicit assumptions and flaws. [9]

4 'The US must lead the world in innovation if it is to keep its place as the world's biggest economy'.

To what extent do you agree with this statement? Construct a well-reasoned argument in support of your view, commenting critically on some or all of Documents 1 to 4, and introducing ideas of your own. [30]

DOCUMENT 1

Slipping Rank

The US has fallen so badly behind in the global broadband race it now has Third World status – it ranks 15th in the world in broadband adoption, according to the Organisation for Economic Cooperation and Development (OECD). But wait a minute – isn't that what the English say about their broadband in England? This is all plain scaremongering. We should be believing that our children are all above-average world-achievers, but instead we believe that we are lagging behind. These statistical snapshots are not helpful – often the proffered ranking is a spurious correlation, known as 'lying with statistics'.

The "we're falling behind" hysteria should really have been seen as ludicrous, but rather it became a reason for this administration to pour colossal amounts of public money into a crisis that did not exist. They bought the argument that without universal high-speed access to the Internet, American children would not receive the quality education they deserve. Launching a $787 billion "stimulus" package to boost broadband networks, President Obama proclaimed, "It is unacceptable that the United States ranks 15th in the world in broadband adoption. Here, in the country that invented the Internet, every child should have the chance to get online... – because that's how we'll strengthen America's competitiveness in the world."

The OECD ranking of the US is flawed. They used a per capita method, focusing on subscriptions per 100 persons throughout the world nations, which ignores differences in the average size of households. By using subscriptions per 100 households, and comparing our broadband provision with large economies similar to ours (like Japan or Canada), the ranking has been shown to alter significantly. According to the Federal Communication Commission, the US ranks joint first among the five wealthiest countries.

Making out that America is in a desperate international position has always been a useful rhetorical weapon for those who seek political advantage. This kind of global-ranking panic, even when false, can be very effective. For example, Senator John F Kennedy used similar scare tactics during his presidential campaign in 1960: he argued that the Eisenhower-Nixon policies were causes for the US's apparent failure in "losing the satellite–missile race with the Soviet Union".

What justification is there for throwing public money after a higher broadband penetration rate, when the money could be used to improve programs with much higher social value such as, say, America's infant mortality rate? Americans need to stop finding such race-to-the-bottom arguments in order to claim that their country is sinking fast.

Thomas W Hazlett (US academic)

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DOCUMENT 2

Flat Earth

The world is today as flat as the screen of your laptop. And in a flat world you can innovate without having to emigrate. A 14-year-old in Romania or Bangalore or Russia or Vietnam can access all the information, all the tools, all the software to apply knowledge however they want. Today, broadband has shrunk the world and empowered individuals beyond all expectations. People-to-people connectivity has peaked to a whole new level.

Take India. Dinakar Singh, one of the most respected hedge fund managers on Wall Street, whose parents had earned doctoral degrees in biochemistry before emigrating to the US, says, "India had no resources and no infrastructure. It produced people with quality and by quantity. But many of them rotted on the docks of India like vegetables – only a few could afford to get out. Not anymore; we Americans built this ocean-crosser called fibre-optic cable. Now you can plug into the world from India. You don't have to go to Yale and go to work for Goldman Sachs." India could never have afforded to pay for the bandwidth to connect brainy India with high-tech America, so American shareholders paid for it. Yes, crazy overinvestment can be good. In building these digital railroads, foreigners and their enterprises benefitted, and India got a free ride.

Take China. Through e-connectivity, I can simply sit at a keyboard and transact business through such processes as "offshoring" (e.g. send my whole factory from Canton, Ohio to Canton, China) and "supply chaining" (if I sell an item in Arkansas, another is immediately made in China). So in 30 years' time we'll have gone from "sold in China" to "made in China" to "designed in China" to "dreamed up in China".

Says Rajesh Rao of Bangalore, "Once we saw we had an infrastructure that made the world a very small place, we promptly tried to make the best use of it. We went ahead and today we see the results. But there is no time to rest. There are dozens of people who are doing the same things that you are doing, and they are trying to do them better. It is like water in a tray: you shake it and it will find the path of least resistance. That is what is going to happen to many jobs. They will go to the part of the world where there is least resistance and the most opportunity." So, instead of complaining about outsourcing, Americans and Western Europeans would be "better off thinking about how you can raise your bar and raise yourselves into doing something better."

Americans have consistently led in innovation over the last century. When it comes to responding to the challenges of the flat world, there is no helpline we can call. We have to dig ourselves out. We in America have all the basic economic and educational tools to do that, but there is an 'ambition gap' plaguing American society. Compared with young, energetic Indians and Chinese, too many Americans have become lazy.

We need to get going immediately. So, parents, throw away the Game Boy, turn off the television and get your kids to work. I am now telling my own daughters, "Girls, finish your homework – people in China and India are starving for your jobs."

Thomas L Friedman (US journalist)

DOCUMENT 3

Worldwide Public Opinion Poll

Question: Today, which **one** of the following do you think is the world's leading economic power: the United States, China, Japan, or the countries of the European Union?

The table shows the percentage from each country that responded "United States".

Country	*2008*	*2009*	*2010*
Argentina	53	41	43
Australia	37	-	-
Brazil	-	-	51
Britain	44	46	38
Canada	-	35	-
China	48	41	45
Egypt	43	55	42
France	44	45	41
Germany	25	20	18
India	65	63	60
Indonesia	53	50	49
Israel	-	56	-
Japan	52	58	40
Jordan	36	49	30
Kenya	-	66	61
Lebanon	35	29	29
Mexico	59	55	53
Nigeria	58	68	55
Pakistan	52	44	53
Palestinian ter.	-	41	-
Poland	52	39	44
Russia	32	17	23
South Africa	49	-	-
South Korea	74	80	77
Spain	42	47	40
Tanzania	63	-	-
Turkey	62	58	69
United States	46	48	38

(All available data shown.)

Source: Pew Research Center

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DOCUMENT 4

The Great Innovators

Think of the world economy as a ladder. On the bottom rungs are the countries producing mainly textiles and other low-tech goods. Towards the top are the US and other leading economies, which make sophisticated electronics, software, and pharmaceuticals. Up and down the middle rungs are all the other nations, manufacturing everything from steel to cars to memory chips.

Viewed in this way, economic development is simple: everyone tries to climb to the next rung. This works well if the topmost countries can create new industries and products. Such invention allows older industries to move overseas while fresh jobs are generated at home. But if innovation stalls at the highest rung – well, that's bad news for Americans, who must compete with lower-wage workers elsewhere.

Today, many are worried that the US has reached the top of the ladder and run out of rungs. A growing number of high-tech and other white-collar jobs are moving to India, China, and other places. At the same time, there's nothing readily apparent to replace those exported jobs. What's more, the countries snatching jobs are producing large numbers of college graduates for the first time. The fear is that the US educated class will be ground down by globalisation, just as blue-collar workers were in the 1970s and 1980s.

It's a scenario that shouldn't be dismissed out of hand – but it's not likely to happen. The US still has a distinct competitive advantage in innovation. If there's any country well suited to find a new rung for the economic ladder, it's America. America's strongest suit is innovation, which will always create new high-paying positions.

Despite anecdotes of well-paying jobs being sucked overseas, there's little evidence that educated workers, overall, are worse off than they were after the last recession. Moreover, the number of jobs held by college-educated workers who are 25 years old and above has risen by 2.2% over the past year, compared with a 0.4% gain for the less educated. The jobless rate for college-educated workers has been around 3% since the end of 2001, while the unemployment rate for other workers has increased by half a percentage point, to 5.7%. Wage growth has also been stronger for better jobs. Over the past year, median earnings for managers and professionals are up by 2.8%. Blue-collar and service workers showed no gain.

"I think people are overreacting a little bit," says Steven P Jobs, CEO of Apple Computer Inc., "since big chunks of the tech labour market – including the most innovative parts – are not going to move overseas."

Still, history does offer cause for worry. There was a period, from 1973 to 1985, when technological change contributed almost nothing to growth, according to government data. Not coincidentally, that was also the same stretch when US manufacturing became vulnerable to foreign competitors.

That's why the American economy needs a boost from innovation if it is to continue creating the next generation of leading-edge industries and new high-paying jobs. By its nature, technology leaps are unpredictable and risky – yet that's where the US shines. It has the biggest economy on Earth, enabling America to make technological bets that would crush other nations. The US has by far the best-developed financial markets in the world, including venture-capital and high-yield bond markets for financing new businesses.

And, for the foreseeable future, the US still has the best-educated workforce among the major economies – a plus for invention. The latest figures from the Organization for Economic Cooperation and Development show that 30% of Americans aged 25 to 34 have a college degree, compared with 24% for Japan and 14% for Germany. That's essential: better-educated workers can better cope with rapid change, adjust on the fly, and imagine and develop fresh products and strategies.

Where will the next big innovation come from? It could be telecoms, or biotech, or energy. Nobody knows. Nobody knew in 1994, either, when real wage growth was still slow, unemployment was above 6%, and Netscape's initial public offering, which marked the start of the Internet revolution, was a year away.

The biggest danger to US workers isn't overseas competition. It's that we worry too much about other countries climbing up the ladder and not enough about finding the next higher rung for ourselves.

Michael J Mandel

Source: Bloomberg Business Week

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