# FINAL Examination Paper

## (COVER PAGE)

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<th>Session</th>
<th>SEPTEMBER 2010</th>
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| Programme     | BMGEI - BACHELOR OF ENGINEERING (HONS) IN MECHANICAL ENGINEERING  
                BCEGI - BACHELOR OF ENGINEERING (HONS) IN CIVIL ENGINEERING  
                BIMCI - BACHELOR OF SCIENCE (HONS) IN INTERNET AND MULTIMEDIA COMPUTING  
                BNMCI - BACHELOR OF SCIENCE (HONS) NETWORK AND MOBILE COMPUTING |
| Course        | UCC1101: TECHNICAL ENGLISH |
| Date of Examination | 25 (Thursday) November 2010 |
| Time          | 8.00 am – 10.00 am  
                Reading Time : Nil |
| Duration      | 2 Hours |

**Special Instructions**

This paper consists of **TWO** sections. Answer **ALL THREE** (3) questions in **SECTION A** and only **ONE** (1) question from **SECTION B**. In total you are required to answer **FOUR** (4) questions in the answer booklet provided.

Materials permitted: **NIL**

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Examiner(s): **Ms Ong Huey Ling**

Moderator: **Dr Wong Fook Khoon**

*This paper consists of 9 printed pages, including the cover page.*
INTI INTERNATIONAL UNIVERSITY

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FINAL EXAMINATION: SEPTEMBER 2010 SESSION

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SECTION A

Question 1 (25 marks)

ELECTRIC CARS: THE ROAD TO LESS POLLUTION

1 It's the year 2010 and one of those glaring bright Hong Kong summer days that hurt your eyes the minute you step out of the flat. To escape the heat you flag down the familiar red taxi. It glides to the curb to pick you up and hums away without a sound. Sweeping past the other silent cars, taxis and buses headed into Central, you feel as if you can almost touch Kowloon, it looks so close against the pure, clean sky.

2 It is nothing, you remember with a slight shudder, like the pollution shrouded vista of 1996. This is a vision of Hong Kong in the era of the electric vehicle. Clean air, skies and running cars which produce no deadly emission gases. Or so the environmentalists would have us believe. But back to the present, there has never been a quick solution to air pollution, and despite the optimism, some of the lustre is fading in the green argument for electric powered vehicles. The detractors claim electric vehicles transfer the pollution load from the roads to the power plants which produce the electricity. They are inefficient and slow. And who, they ask, would buy untested technology?

3 "Hong Kong is perfect for electric vehicles and the technology is available," said Al Morgan, a consultant who has been trying to sell his vision of an electrified Asia. "This could be the showplace for electric vehicles. The high profile of Hong Kong throughout the world and the confined road space make it a natural fact."

4 But selling a dream has never been easy. Last year, the Private Sector Committee on the Environment displayed an electric taxi to a crowd of curious onlookers in Central
and suggested that a fleet of 150 to 200 vehicles would be cruising the streets by early this year.

Elcar Asia Ltd, which had envisaged electrifying the entire taxi fleet of nearly 15,000 vehicles, and sprinkling battery swapping stations across the territory, has since closed down. Its director, Dr. Donald Taylor, however, is undaunted: he is still pursuing the electrified road. Professor Chan Ching-chuen, director of the University of Hong Kong's International Research Centre for Electric Vehicles, heads a team of 10 researchers who have been relentlessly chasing the pollution-free vehicle.

Nine experimental versions were built and tested before the latest proto-type, the U2001 was completed. The project links researchers from the university with counterparts in Japan, China and the United States. The results are being carefully watched by those governments as well as the American Big Three car manufactures - Chrysler Corporation, Ford Motor Company, and General Motors Corporation. Honda in Japan is one of the project sponsors. This is not the work of lightweights. "Hong Kong does not have the manufacturing base to produce electric cars, but it is becoming a world leader in this technology and can act as a catalyst," project researcher, Chau Kwok-Tong, said. "All across the world scientists are awaiting the go-ahead." In the US, reforms are in the works which could alter how car-mad Americans see themselves. New York, California, and Massachusetts, have, in an effort to clean up the environment, drafted laws mandating electric vehicle sales by 1998. In California, where the streets are clogged with Mercedes-Benz, Rolls Royces, Ford Broncos and low-riders, two per cent of all vehicle sales must be electric by that date. The Californian two per cent rule has left dumbfounded manufacturers scrambling for a user-friendly electric car. Closer to home, Taiwan has set a 1998 deadline and is demanding five per cent of motorcycles sold by manufacturers must be electric. But the proponents of electric cars are not without their enemies. Last month, the US car manufacturers rebelled and are now threatening to hold hostage the three American states hostage. If California, Massachusetts and New York do not wipe their electric vehicle laws off the books, manufacturers have said they will kill plans to produce cleaner burning cars next year. The choice is to loosen the emission restrictions and allow more time to find alternatives. The Big Three have said consumers will reject the current crop of electric vehicles because they are too expensive and inefficient. Given time, they claim, the emission standards for fossil fuels vehicles, can drop to near zero. But without the time, they say they will abandon research. Critics have complained that environmentalists are myopic when it comes to electric vehicles. Electric vehicles are zero emission producers. The two per cent scheme will not effectively control pollution because it only transfers it from the car to the power station.

Despite intensive research on how to power the vehicles, this remains one of the unresolved problems. Traditional lead-acid batteries appear to have the highest efficiency rates, but lead is one of the world's deadliest pollutants. The more high-tech combinations, like nickel cadmium, lithium polymer, sodium sulphur or zinc-air present environmental spillage problems, not to mention their high costs.
Large amounts of lead are required to create the batteries needed to power huge numbers of electric cars. American researchers have suggested that emissions from mining, smelting and the recycling of this lead would expose thousands of people living or working close to production sites to near toxic levels of lead. If only five per cent of America's 200 million vehicles were powered by lead-based batteries, an extra 21,000 tonnes of lead would be released into the environment annually.

The focus on electric vehicles may have clouded alternative zero emission options. New research is being done at Massachusetts Institute of Technology and other research centres worldwide. The industry is looking for other technological breakthroughs - fusion for example.

Other experts believe Mercedes-Benz and Mazda's research on hydrogen power and fuel cells might hit pay off both in dollars and clean air. Even the most jaded sceptic has to agree that something must be done to solve the pollution crisis.

It is estimated that there are a billion internal combustion engines on the planet. The rule of thumb is that one dirty engine equals 40 clean ones which are well-maintained. It is the insidious nature of air pollution and the inability of researchers to eliminate other factors and prove that the toxic cocktail of chemicals in our air is a direct health risk, which has led to muddled action by governments, worldwide.

But in action costs. The American Lung Association puts a price tag of more than US$ 40 billion (HK$ 309.2 billion) a year on air pollution, in terms of medical costs, days lost at work and premature death. In the past decade, the rate of pollution-related respiratory problems in the territory has leapt by 18.6 per cent.

The Government's statistics tell us that every day we breathe the equivalent of 250 beverage cans of toxic pollutants. And, they assure us, it is getting worse. When Governor Chris Patten arrived in Hong Kong, he was hailed as the "Green Governor". But the policy makers in the Government have side-stepped and shrugged off every opportunity to enact fresh air legislation. A survey conducted by the air action group CLEAR found that over 80 per cent of the people of Hong Kong would gladly pay higher taxi and bus fares, if it meant they would be able to breathe cleaner air. As legislator Christine Loh Kung-Wai has pointed out: "Now is the time for action. The projections for increased commercial and container port traffic on the roads show that it will only get worse. What we need is creative thinking, but we need it in a hurry. The health of Hong Kong people can't wait." Electric cars can help Hong Kong breathe easier.

(Adapted from the South China Morning Post, 2005)
Answer all the following reading comprehension questions briefly.

1. What is the main idea of the first paragraph? (1 mark)
2. In your opinion, what does “shrouded vista” mean? (1 mark)
3. Give one main message of the third paragraph. (1 mark)
4. Why is Hong Kong chosen as a good place to start using electric cars? (3 marks)
5. Who are leading in the U.S. reforms supporting the manufacture of electric cars? (1 mark)
6. Which reference is described with precise statistics? (2 marks)
7. What are the arguments of the ‘Big 3’ car manufacturers? (3 marks)
8. What does “Now is the time for action................. The health of Hong Kong people can't wait.” (paragraph 13) mean? (2 marks)
9. Give the closest meaning of the word, “proponents” in paragraph 6. (1 mark)
10. Based on paragraph 6, what does “do not wipe their electric vehicle laws off the books” mean? (2 marks)
11. In paragraph 6, what actually does the word, “it” refer to? (1 mark)
12. According to paragraph 7, what is the obstacle that face by them? (2 marks)
13. Give the similar meaning for each of the words below: (5 marks)
   a. glaring (paragraph 1)
   b. envisaged (paragraph 5)
   c. undaunted (paragraph 5)
   d. mandating (paragraph 6)
   e. hailed as (paragraph 13)
Question 2 (25 marks)

A. Fill in the blanks with the correct form of the verbs given in brackets.

Look inside the 2011 Ford Fiesta and you will see dashboard controls that (1) _______ (model) after the keypad of a cell phone. In some ways, that makes perfect sense: Ford’s market research suggested that young buyers (2) _______ (more attach) to their mobile phones than to their means of mobility.

But by the time the new Fiesta (3) _______ (arrive) in American showrooms this summer, the phone that Ford (4) _______ (choose) as its model looked old-fashioned alongside the latest Apple iPhones and Motorola Droids — and so (5) _______ (do) the dashboard controls.

Those outdated buttons (6) _______ (be) a glaring reminder that mobile electronics evolve much faster than automobiles. In fact, Ford (7) _______ (already recognize) the challenge of keeping its vehicles’ controls and instruments up to date and in 2006 began to address the situation.

Ford’s goal in establishing a set of design principles for automotive interfaces that would be consistently (8) _______ (apply) to all models was to improve what it called the cabin experience. The program (9) _______ (give) the internal code name HAL.

While Ford (10) _______ (receive) more attention for the voice recognition features of Sync, the automotive software developed jointly with Microsoft, its comprehensive redesign of the tactile controls (11) _______ (be) likely to have at least as much importance for drivers. The touch screen and the steering wheel buttons are now plausible alternatives to the voice controls.

(11 marks)

(Adapted from http://www.nytimes.com/2010/10/10/automobiles/10FACE.html)
B. Convert the following sentences to the passive. (14 marks)

1. After the theft, the manager called in the Criminalistics Unit.
2. The Atlanta Police Department hired one of our graduates in August 2009.
3. The architectural intern drew the plans.
4. The maintenance men repair the faulty switches.
5. The transportation chief gives directions to the drivers.
6. Immediately after the data have been analyzed, we will send a copy of the findings to your branch office.
7. Software pirates had found ways to circumvent the security features of the new operating systems.

Question 3 (25 marks)

Choose any ONE (1) of the following topics and write an essay of approximately 300 words.

1. The impact of technology in our daily life.
2. Compare and contrast an iPhone and an iPod Touch.
3. Renewable energies as the best way to curb global warming.
SECTION B

Answer only ONE (1) question.

**Question 4** (25 marks)

(a) In not more than 30 words, write a formal definition for each of the following terms.

1. sensory system
2. oscillator
3. flue gas treatment
4. condensation
5. turbine

(b) Letter of Complaint

You are the restaurant manager of The Four Seasons located at 99 East 52nd Street, Between Park and Lexington Avenues, New York, NY 10022. You encounter problems with the leaking pipes in your kitchen and customer's washrooms. Write a complaint letter to the owner of the building, Mr. Alex von Bidder. Request Mr. Alex to repair all the faulty pipes in your restaurant. Mr. Alex von Bidder's address is as follows:

Mr. Alex von Bidder,  
220 W, 42nd Street,  
12th Floor,  
New York, NY 10036  
United States.

You may add any necessary details.
Question 5 (25 marks)

In 150-200 words, write a technical description of a washing machine as shown in the diagram below.

![Diagram of a washing machine](http://www.hometips.com/repair-fix/clothes-dryer-troubleshooting.html)


-THE END-

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