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FINAL  
Examination Paper

(COVER PAGE)

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Session : August 2012

Programme : Diploma in Electrical & Electronic Engineering Programme

Course : ENL1102 : Technical English

Date of Examination : 14 December 2012

Time : 11p.m. – 1p.m Reading Time : Nil

Duration : 2 Hours

Special Instructions :

This paper consists of **TWO (2)** sections. Answer **ALL** questions in **SECTION A** and any **ONE (1)** question in **SECTION B** and any **ONE (1)** question in **SECTION C** in the answer booklet provided.

Materials permitted : Nil

Materials provided : Nil

Examiner(s) : Angeline Meow

Moderator : Shaira

*This paper consists of 10 printed pages, including the cover page.*

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DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING  
DIPLOMA IN MICROELECTRICAL ENGINEERING  
DIPLOMA IN TELECOMMUNICATION ENGINEERING  
ENL 1102: TECHNICAL ENGLISH  
FINAL EXAMINATION: AUGUST 2012 SESSION

Instructions: This paper consists of SIX (6) questions. Answer ALL questions from SECTION A, any ONE (1) question from SECTION B and any ONE (1) question from SECTION C. All answers are to be written in the answer booklet provided.

SECTION A: Answer ALL questions.



Question 1

(30 marks)

Read the following passage and answer the questions that follow.

**Tossing mud balls for clean water environ**

By: Avila Geraldine Samuel

SHANGRI-La's Tanjung Aru Resort and Spa (STAR) guests can now get a hands-on experience tossing mud balls in the effort to help create a clean water environment.

Being the first resort in Sabah to adopt and utilize the Effective-Microorganism (EM) mud balls, the project is implemented as part of the resort's Corporate Social Responsibility (CSR) and environmental initiatives to clean up bodies of water such as rivers, lakes, drains, etc where there are concentrated deposits of sludge and slime.

Its communication director, Tulip Noorazyze, said STAR adopted the mud balls method after knowing about its benefits from their sister property in Penang.

"As far as I know, we are the first in Sabah to do the mud ball programme and we have brought the concept to some of the schools in Kota Kinabalu.

"We approached Mesra Alam International Sdn Bhd, an environmental company who have been working closely with us in Sabah to assist in the demonstration and getting the ingredients for making the mud balls.

"The Penang Council also implemented this mud ball concept by throwing thousands of mud balls at the Gurney Drive waterfront," she said, recently.

It is said that tossing mud balls will help keep drains, sewers, and streams clean as they have been enriched with EM, a consortium of good microbes that can degrade pollutants that continue pouring into rivers.

In Penang, Sungai Pinang and Sungai Mas are said to be less murky and smelly after thousands of mud balls were thrown in.

In Sungai Kelian in Tanjung Bungah, Penang, the transformation appears almost miraculous; after three months of mud ball treatment between March and June at the estuary, the metre-thick black sludge that smothered the riverbed has disappeared, leaving behind a sandy bottom.

How does EM mud balls work? The mud balls are made with a mixture of clay, bokashi - Japanese for "shading off, gradation" (rice bran fermented with EM and molasses) and EM that is mixed together and allowed to ferment.

"As a result the mud balls are enriched with EM and when applied to rivers or lakes will slowly break down, allowing EM to escape into the water.

"EM bokashi mud balls inhibit the growth of algae, and break down any sludge and silt in the water, resulting in clear and healthy water," explained Tulip.

In August last year, STAR tossed around 50 EM bokashi balls into the Tanjung Aru drains that lead to the ocean.

"Led by the resort's general manager, Andrew Steele, the mud balls were thrown into two drains at Zero Beach and close to the hawker stalls near first Beach in Tanjung Aru.

"As the mud ball can last only a week after fermentation, we have been making only small quantities of between 50 and 100 mud balls each time for the drains outside our resort. However we plan to do more mud balls with the schools," said Tulip.

She said mud ball project is only one of the programmes and STAR has a lot more initiatives from school adoption to water village adoption, adoption of underprivileged children and so forth.

The mud balls project is specially organised weekly for hotel guests and their children.

"The resort plans to continue this activity once a fortnight, and guests at the resort would be invited to participate.

(Source: Daily Express, Independent National Newspaper of East Malaysia)


A. Answer the following questions based on the passage above. (20 marks)

1. What are “Mud Balls”? Explain in your own words. (2 marks)
2. What are mud balls used for? Explain in your own words. (3 marks)
3. How does a mud ball work? Explain in your own words. (4 marks)
4. List two (2) places where the usage of mud balls have been effective. (3 marks)
5. In your opinion, why do you think mud balls were introduced in this modern era? Give two (2) reasons. (4 marks)
6. If you were an environmental engineer for your company, would you be interested in using these mud balls? Explain your reasons. (4 marks)

B. Give the meaning of the words below as they are used in the passage. (10 marks)

(10 marks @ 2 marks for each)

- a. Utilize
- b. To assist
- c. Transformation
- d. Enriched
- e. Inhibit

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## Question 2

(30 marks)

Write an essay of about 300-350 words from the points provided. You are to construct your own thesis statement, topic sentences, supporting sentences, and concluding sentences.

Topic: Causes of Sea Level Rise

Point 1: Ice caps

- a) Variations in the polar ice caps mass in Greenland and Antarctica – affects sea level
- b) Increased snowfall caused by rising temperatures – melting the ice along the coasts faster
- c) Glaciers acceleration to the coast – leading towards an ice cap mass loss

Point 2: Sea ice

- a) Its melting is accelerated by a mechanism of amplification (positive feedback) – ice reflects solar radiation, causing a decrease of the surface or change in texture
- b) When it melts, it accelerates the ocean warming – contributing to its increase in volume

Point 3: Mountain glaciers

- a) Glaciers are very sensitive to global warming – they are retreating and thinning very fast- their melting has contributed significantly to the rise in sea level

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SECTION B: Answer any ONE (1) of the following questions.

Question 3

(20 marks)

Your son is interested in the Diploma in Electrical & Electronic programme here at INTI College. As a parent, write an enquiry letter to INTI College to seek information on the following:

- i) Entry requirement
- ii) Age limit
- iii) Duration of the course
- iv) Subjects to be taken & time table
- v) Fees, Loan or scholarship available
- vi) Job opportunities

Question 4

(20 marks)

Your company is organizing a “Robotic Competition”. As the organizing chairperson, write an email to all staff informing them of this event. You are to include the following information in your email:

- i) Objectives
- ii) Venue, Time, Day
- iii) Participants
- iv) Judges
- v) Prizes
- vi) Invitation to all staff

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SECTION C: Answer any ONE (1) of the following questions.

Question 5

(20 marks)

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

## Solar Paint Converts Light to Electricity

*A paint containing titanium dioxide and semiconducting cadmium nanocrystals can convert sunlight to electricity. Christopher Intagliata reports*

Instead of installing solar panels on your roof—how about just (1) \_\_\_\_\_ (give) your house a new paint job? Of course you'd have to be sure to use solar paint. That's what a group of Notre Dame researchers (2) \_\_\_\_\_ (create), detailing the recipe in the journal *ACS Nano*.

The paint (3) \_\_\_\_\_ (contain) nanoparticles of titanium dioxide—which gives whiteness to sunscreen and powdered sugar. The particles (4) \_\_\_\_\_ (coat) with semiconducting cadmium nanocrystals, and (5) \_\_\_\_\_ (mix) with water and alcohol, to create a golden yellow paste. The researchers dubbed the product "Sunbelievable." They (6) \_\_\_\_\_ (brush) it onto a conductive glass electrode, and attached that to a counter-electrode, to create a complete circuit.

When they shined light on the tiny solar cell, it pumped out a small current. The efficiency of the light-to-electricity conversion was only about one percent—much lower than the 10 to 15 percent efficiency of conventional silicon cells.

But the researchers (7) \_\_\_\_\_ (say) this paint is relatively cheap, can be made in any color, and doesn't (8) \_\_\_\_\_ (require) a clean room to manufacture, like silicon cells—just a bench top. If they can (9) \_\_\_\_\_ (increase) the efficiency a bit, a future Tom Sawyer could (10) \_\_\_\_\_ (make) an electric fence.

## Question 6

(20 marks)

Fill in the blanks with the correct transition signals from the box below.

however	another	during	as well as	such as
and	also	as a result	therefore	results from

What is global dimming?

Fossil fuel use, (1) \_\_\_\_\_ producing greenhouse gases, creates other by-products. These by-products are also pollutants, such as sulphur dioxide, soot, and ash. These pollutants however, (2) \_\_\_\_\_ change the properties of clouds.

Clouds are formed when water droplets are seeded by air-borne particles, (3) \_\_\_\_\_ pollen. Polluted air results in clouds with larger number of droplets than unpolluted clouds. This then makes those clouds more reflective. More of the sun's heat and energy is (4) \_\_\_\_\_ reflected back into space.

This reduction of heat reaching the earth is known as Global Dimming.

Impacts of global dimming: millions already killed by it?

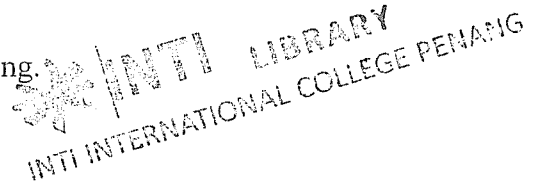
Global warming (5) \_\_\_\_\_ the greenhouse effect caused by, amongst other things, excessive amounts of greenhouse gases in the earth's atmosphere from fossil fuel burning. It would seem then, that the other by-products which cause global dimming may be an ironic savior.

A deeper look at this, (6) \_\_\_\_\_, shows that unfortunately this is not the case.

### Health and environmental effects

The pollutants that lead to global dimming also lead to various human and environmental problems, such as smog, respiratory problems, (7) \_\_\_\_\_ acid rain.

The impacts of global dimming itself, however, can be devastating.



### Millions from Famines in the Sahel in the 70s and 80s

The death toll that global dimming may have already caused is thought to be massive.

Climatologists studying this phenomenon believe that the reflection of heat have made waters in the northern hemisphere cooler. (8) \_\_\_\_\_, less rain has formed in key areas and crucial rainfall has failed to arrive over the Sahel in Northern Africa.

In the 1970s and 1980s, massive famines were caused by failed rains which climatologists had never quite understood why they had failed.

The answers that global dimming models seemed to provide, the documentary noted, has led to a chilling conclusion: “what came out of our exhaust pipes and power stations [from Europe and North America] contributed to the deaths of a million people in Africa, and afflicted 50 million more” with hunger and starvation.

### Billions are likely to be affected in Asia from similar effects

Scientists said that the impact of global dimming might not be in the millions, but billions. The Asian monsoons bring rainfall to half the world’s population. If this air pollution and global dimming has a detrimental impact on the Asian monsoons some 3 billion people could be affected.

As well as fossil fuel burning, contrails is another source


Contrails (the vapor from planes flying high in the sky) were seen as (9) \_\_\_\_\_ significant cause of heat reflection.

(10) \_\_\_\_\_ the aftermath of the September 11, 2001 terrorist attacks in the United States, all commercial flights were grounded for the next three days.

This allowed climate scientists to look at the effect on the climate when there were no contrails and no heat reflection.

What scientists found was that the temperature rose by some 1 degree centigrade in that period of 3 days.

*(Source: Global Issues)*

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--THE END--

(ENL1102/F/Apr2012/Angeline Meow/06/09/12)