00037

THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF PHYSICS
BACHELOR OF SCIENCE DEGREE PROGRAMME – 2011/2012
COMMUNICATION SKILLS – PCU2163
FINAL EXAMINATION
Duration: TWO (2) HOURS **Index No.....**

Date :30.12.2011 **Time:9.30am -11.30am**

Answer **four** *questions only.* **Questions 1 and 2** *are compulsory.*

(Q1) (a) Complete the text using expressions from the box below. Use each word or phrase only once.

steady	*increase*	*declined*	*peaked*	*growth*
dropped	*dramatically*	*fall*	*soaring*	*fluctuate*

Changes in Urban Crime Rate

A few years ago people living in urban areas were very anxious about the **1**..... crime rates. These **2** .....four years ago and the government then responded by recruiting more police officers. Subsequently, the **3** ..... in the number of officers on the streets has definitely helped to reverse the trend. Overall crime rates have steadily **4** ..... over the past three years and the number of young offenders, in particular, has **5** ..... from 17% of all city crime to only 7%. We all hope that this trend will continue and the rate will continue to **6** ..... over the next year or two. But even if the figures **7** ..... rather than stabilising, the huge **8** ..... of confidence in the police is likely to continue as a positive force in the community.

(b) Complete the text below using the correct forms of the words in brackets.

The need for hi-tech medical equipment

The market needs more hi-tech companies that can develop surface engineering to meet the new and **1** ..... (grow) need for advanced surfaces for laboratory items such as glass slides. This technology is needed because of the **2** ..... (increase) high requirements of diagnostic testing in the fields of medicine and life sciences. The sensitivity of tests can be more than **3** ..... (double) by treating the surface of a slide with new chemical coatings. Yet the **4** ..... (grow) and development of this specialised industry has been slow. This gap in the market, however, could encourage greater research links between businesses and universities which **5** ..... (decline) in this field in recent years. By **6** ..... (increase) this kind of technical cooperation, medical diagnosis could be greatly improved.

(c) Complete the extract below with passive forms of the verbs in brackets.

Several surveys **1**..... .... (conduct) recently concerning the relationship between work and play. According to psychologists, activities are more likely to **2** .... (perceive) as play — and therefore attractive — rather than work — and therefore unattractive — if they **3**..... ..... (enter) into voluntarily. In one experiment, for example, volunteers **4**..... ..... (give) a problem-solving game to perform: some **5**..... ..... (pay) to perform the game and some were not. Those who **6**..... ..... (pay) spent less free time performing than those for whom the only motivation was the pleasure of the game. Thus, motivation to play springs from within and the readiness to perform activities **7**..... ..... (reduce) by external rewards.

(20 marks)

(Q2) Read this passage below and answer the questions.

The accidental rainforest

According to ecological theory, rainforests are supposed to develop slowly over millions of years. But now ecologists are being forced to reconsider their ideas.

When Peter Osbeck, a Swedish priest, stopped off at the mid-Atlantic island of Ascension in 1752 on his way home from China, he wrote of 'a heap of ruinous rocks' with a bare, white mountain in the middle. All it boasted was a couple of dozen species of plant, most of them ferns and some of them unique to the island.

And so it might have remained. But in 1843 British plant collector Joseph Hooker made a brief call on his return from Antarctica. Surveying the bare earth, he concluded that the island had suffered some natural calamity that had denuded it of vegetation and triggered a decline in rainfall that was turning the place into a desert. The British Navy, which by then maintained a garrison on the island, was keen to improve the place and asked Hooker's advice. He suggested an ambitious scheme for planting trees and shrubs that would revive rainfall and stimulate a wider ecological recovery. And, perhaps lacking anything else to do, the sailors set to with a will.

In 1845, a naval transport ship from Argentina delivered a batch of seedlings. In the following years, more than 200 species of plant arrived from South Africa. From England came 700 packets of seeds, including those of two species that especially liked the place: bamboo and prickly pear. With sailors planting several thousand trees a year, the bare white mountain was soon cloaked in green and renamed Green Mountain, and by the early twentieth century the mountain's slopes were covered with a variety of trees and shrubs from all over the world.

Modern ecologists throw up their hands in horror at what they see as Hooker's environmental anarchy. The exotic species wrecked the indigenous

ecosystem, squeezing out the island's endemic plants. In fact, Hooker knew well enough what might happen. However, he saw greater benefit in improving rainfall and encouraging more prolific vegetation on the island.

But there is a much deeper issue here than the relative benefits of sparse endemic species versus luxuriant imported ones. And as botanist David Wilkinson of Liverpool John Moores University in the UK pointed out after a recent visit to the island, it goes to the heart of some of the most dearly held tenets of ecology. Conservationists' understandable concern for the fate of Ascension's handful of unique species has, he says, blinded them to something quite astonishing – the fact that the introduced species have been a roaring success.

Today's Green Mountain, says Wilkinson, is 'a fully functioning man-made tropical cloud forest' that has grown from scratch from a ragbag of species collected more or less at random from all over the planet. But how could it have happened? Conventional ecological theory says that complex ecosystems such as cloud forests can emerge only through evolutionary processes in which each organism develops in concert with others to fill particular niches. Plants co-evolve with their pollinators and seed dispersers, while microbes in the soil evolve to deal with the leaf litter.

But that's not what happened on Green Mountain. And the experience suggests that perhaps natural rainforests are constructed far more by chance than by evolution. Species, say some ecologists, don't so much evolve to create ecosystems as make the best of what they have. 'The Green Mountain system is a man-made system that has produced a tropical rainforest without any co-evolution between its constituent species,' says Wilkinson.

Not everyone agrees. Alan Gray, an ecologist at the University of Edinburgh in the UK, argues that the surviving endemic species on Green Mountain, though small in number, may still form the framework of the new ecosystem. The new arrivals may just be an adornment, with little structural importance for the ecosystem.

But to Wilkinson this sounds like clutching at straws. And the idea of the instant formation of rainforests sounds increasingly plausible as research reveals that supposedly pristine tropical rainforests from the Amazon to south-east Asia may in places be little more than the overgrown gardens of past rainforest civilisations.

The most surprising thing of all is that no ecologists have thought to conduct proper research into this human-made rainforest ecosystem. A survey of the island's flora conducted six years ago by the University of Edinburgh was concerned only with endemic species. They characterised everything else as a threat. And the Ascension authorities are currently turning Green Mountain into a national park where introduced species, at least the invasive ones, are earmarked for culling rather than conservation.

Conservationists have understandable concerns, Wilkinson says. At least four endemic species have gone extinct on Ascension since the exotics started arriving. But in their urgency to protect endemics, ecologists are missing out on the study of a great enigma.

'As you walk through the forest, you see lots of leaves that have had chunks taken out of them by various insects. There are caterpillars and beetles around,' says Wilkinson. 'But where did they come from? Are they endemic or alien? If alien, did they come with the plant on which they feed or discover it on arrival?' Such questions go to the heart of how rainforests happen.

The Green Mountain forest holds many secrets. And the irony is that the most artificial rainforest in the world could tell us more about rainforest ecology than any number of natural forests.

Do the following statements agree with the information given in the Reading Passage?

TRUE *if the statement agrees with the information*

FALSE *if the statement contradicts the information*

NOT GIVEN *if there is no information on this*

1. When Peter Osbeck visited Ascension, he found no inhabitants on the island.
2. The natural vegetation on the island contained some species which were found nowhere else.
3. Joseph Hooker assumed that human activity had caused the decline in the island's plant life.
4. British sailors on the island took part in a major tree planting project.
5. Hooker sent details of his planting scheme to a number of different countries.
6. The bamboo and prickly pear seeds sent from England were unsuitable for Ascension.

Complete each sentence with the correct ending A—G from the box below. Match the correct letter A-G in boxed with the numbers.

7. The reason for modern conservationists' concern over Hooker's tree planting programme is that ( )
8. David Wilkinson says the creation of the rainforest in Ascension is important because it shows that ( )
9. Wilkinson says the existence of Ascension's rainforest challenges the theory that ( )
10. Alan Gray questions Wilkinson's theory, claiming that ( )
11. Additional support for Wilkinson's theory comes from findings that ( )

A	other rainforests may have originally been planted by man.
B	many of the island's original species were threatened with destruction.
C	the species in the original rainforest were more successful than the newer arrivals.
D	rainforests can only develop through a process of slow and complex evolution.
E	steps should be taken to prevent the destruction of the original ecosystem.
F	randomly introduced species can coexist together.
G	the introduced species may have less ecological significance than the original ones.

Answer these questions which are based on the reading passages.

1. Why does Wilkinson suggest that conservationists' concern about the island is misguided?

   .....

   .....

   .....

2. What feature of the Ascension rainforest does the writer stress?

   .....

   .....

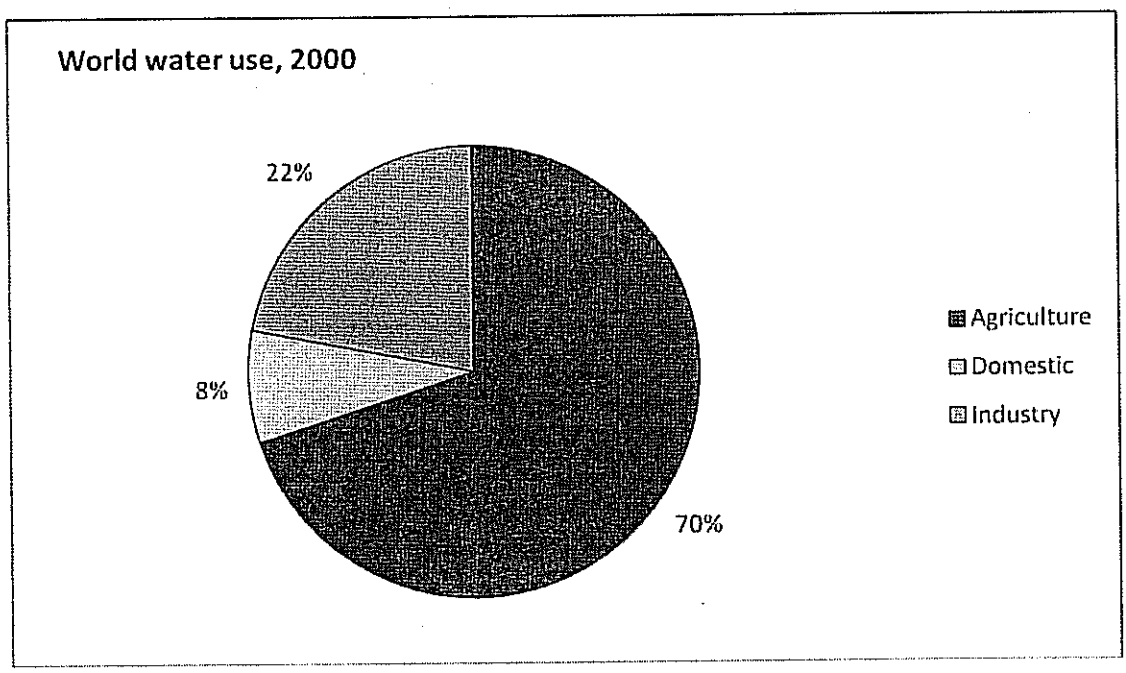
   .....

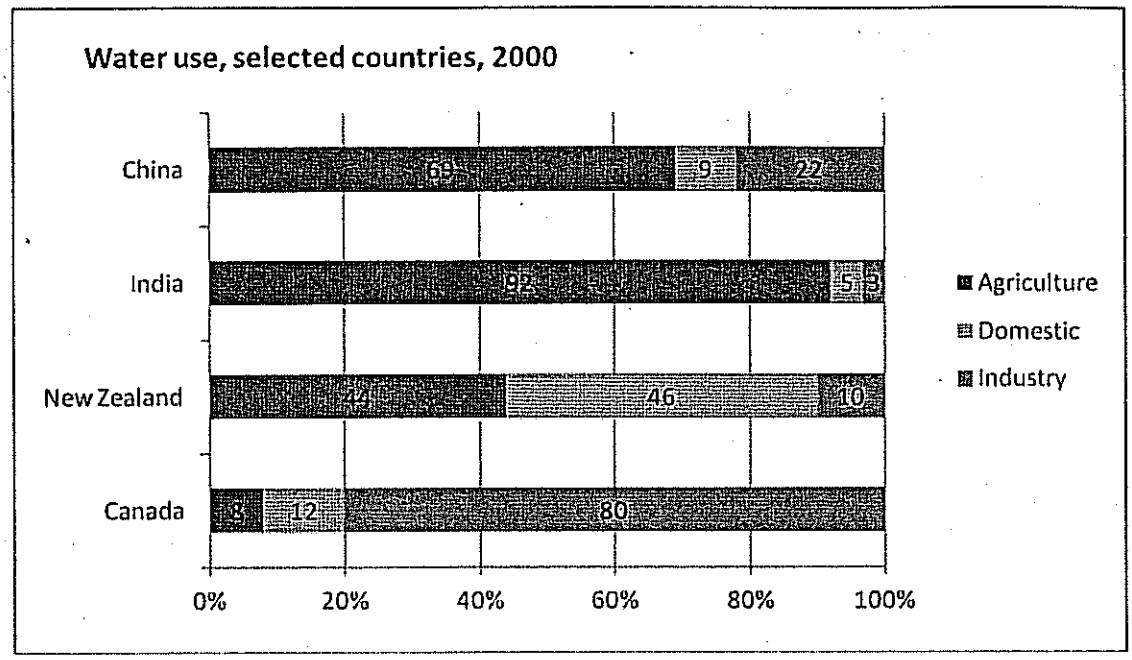
(30 marks)

(Q3) The charts below give information about the way in which water was used in different countries in year 2000.

Summarise the information by selecting and reporting the main features, and make comparisons where relevant.

Write at least 150 words.





(25 marks)

(Q4) Write an essay on any one of the following topics.

1. Rights in the workplace.
2. Relationship between old and young people in the modern world.
3. Effects of tourism.

Write not less than 200 words

(25 marks)

(Q5) Your firm is thinking of producing a suggestion scheme. Write a memorandum setting down how you think such a scheme might be organised and the basic requirements which should be observed by management to ensure its success.

(25 marks)

(Q6) Your office telephone has been out of order for three days. You reported the fault immediately as you discovered it, but it has not yet been attended to and you are being seriously inconvenienced in consequence.

Write a tactful letter of complaint to your telephone manager asking for the services to be restored without delay.

(25 Marks)