



The Open University of Sri Lanka
Department of Physics
Bachelor of Science Degree Programme-2016/2017
Communication Skills -PCU 1163/PCU 2163-Level 3
Final Examination

Date: 28-July -2017

Time: 9.30 a.m.-11.30 a.m.

Index No
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Instructions to Candidates

- (1) This paper consists of Five (5) questions and you are asked to write answers to all the questions.
- (2) Your hand writing must be legible.
- (3) You must write your index number in the box provided.
- (4) Write answers on the papers itself.

Question No	Marks
1	
2	
3	
4	
5	
Total	

Q-1. Read the text and answer the questions given below.

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The origins of the word dengue are not clear, but one theory is that it is derived from the Swahili phrase "Ka-dinga pepo", meaning "cramp-like seizure caused by an evil spirit". The Swahili word "dinga" may possibly have its origin in the Spanish word "dengue" meaning fastidious or careful, which would describe the gait of a person suffering the bone pain of dengue fever. Alternatively, the use of the Spanish word may derive from the similar-sounding Swahili. Slaves in the West Indies who contracted dengue were said to have the posture and gait of a dandy, and the disease was known as "Dandy Fever".

The first record of a case of probable dengue fever is in a Chinese medical encyclopedia from the Jin Dynasty (265–420 AD) which referred to a "water poison" associated with flying insects. The first recognized Dengue epidemics occurred almost simultaneously in Asia, Africa, and North America in the 1780s, shortly after the identification and naming of the disease in 1779. The first confirmed case report dates from 1789 and is by Benjamin Rush, who coined the term "break bone fever" because of the symptoms of myalgia and arthralgia.

The viral etiology and the transmission by mosquitoes were only deciphered in the 20th century. The socioeconomic impact of World War II resulted in increased spread globally. Nowadays, about 2.5 billion people, or 40% of the world's population, live in areas where there is a risk of dengue transmission. Dengue spread to more than 100 countries in Asia, the Pacific, the Americas, Africa, and the Caribbean.

Possible factors for dengue fever spread include: Unplanned urban overpopulation of areas leading to inadequate housing and public health systems (water, sewerage and waste management) Poor vector control, e.g., stagnant pools of water , climatic changes and viral evolution (increased virus transmission has been linked to El Nino conditions) increased international travel (recreational, business , military) to endemic areas. All of these factors must be addressed to control the spread of dengue. Unplanned urbanization is believed to have had the largest impact on disease amplification in individual countries, whereas travel is believed to have had the largest impact on global spread.

Dengue is spread by several species of mosquito of the Aedes type , principally A. aegypti. The virus has five different types; infection with one type usually gives lifelong immunity to that type, but only short-term immunity to the others. Subsequent infection with a different type increases the risk of severe complications. A number of tests are available to confirm the diagnosis including detecting antibodies to the virus or its RNA. An antibody (Ab), also known as an immunoglobulin (Ig), is a large, Y-shaped protein produced mainly by plasma cells that is used by the immune system to neutralize pathogens such as bacteria and viruses.

The antibody recognizes a unique molecule of the harmful agent, called an antigen, via the Fab's variable region. Each tip of the "Y" of an antibody contains a paratope (analogous to a lock) that is specific for one particular epitope (similarly analogous to a key) on an antigen, allowing these two structures to bind together with precision. Using this binding mechanism, an antibody can tag a microbe or an infected cell for attack by other parts of the immune system, or can neutralize its target directly (for example, by blocking a part of a microbe that is essential for its invasion and survival). Depending on the antigen, the binding may impede the biological process causing the disease or may activate macrophages to destroy the foreign substance. The ability of an antibody to communicate with the other components of the immune system is mediated via its Fc region (located at the base of the "Y"), which contains a conserved glycosylation site involved in these interactions. The production of antibodies is the main function of the humoral immune system.

A novel vaccine for dengue fever has been approved and is commercially available in a number of countries. Other methods of prevention are by reducing mosquito habitat and limiting exposure to bites. This may be done by getting rid of or covering standing water and wearing clothing that covers much of the body. Treatment of acute dengue is supportive and includes giving fluid either by mouth or intravenously for mild or moderate disease. For more severe cases blood transfusion may be required. About half a million people require admission to hospital a year. Nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen should not be used.

1) Write a suitable heading for the above text.

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2) According to the text what is the meaning of "Ka-dinga pepo"?

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3) What factor has made the greatest impact on amplifying the spreading of the disease?

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4) When was it deciphered that dengue is originated by a mosquito?

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5) What is the climatic condition mentioned in text which enhances the spreading of the disease around the world?

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6) Write the methods of preventing the disease

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7) According to the text, what is the treatment for the severe cases of the disease?

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8) Where did the first recognized epidemics occur?

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9) What drugs should not be used?

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10) As a Public Health Officer in your area, what instructions would you give to the residents? Write a list of five in point form.

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[The page contains approximately 35 horizontal dotted lines for writing.]

Q-3 Read the Paragraph carefully and fill in the blanks using the words given below.

renewable	combustion	advancements	distributed	offsets	purchase
conserving	greater	upgrade	exception	improvements	electricity
comparable	priority	advantages	incentives	rooftop	insurance
					environmental

Solar Power for Your Home

The sun is a (1)..... source of clean energy and that's an increasingly valued benefit. Solar photovoltaic (PV) systems produce electricity without emissions of air polluting gases, greenhouse gases and particles that are by products of (2).....or burning fuels. The supply of "fuel" for solar PV systems – sunlight and solar heat – is endless and free.

That doesn't mean the (3)..... is free, but you may be able to save money. With the ongoing (4)..... in solar PV technology, the cost of solar power continues to drop and its use is on the rise. Since solar PV systems are long-lasting and require little maintenance, the cost of producing electricity remains relatively stable and (5)..... over a long time.

Owning a home solar power system can be (6)..... against energy cost increases that affect other power sources. In addition, studies in various locations found that homes with PV systems sold for several thousand dollars more than (7)..... non solar homes. Rooftop solar power creates a system of (8)..... generation (many small-scale power plants) that helps meet area power needs. Solar power that is produced at times of high electricity demand (typically late afternoon) is high-value electricity since it (9)..... energy (10)..... or generation when the cost is higher.

You may have personal motives to go solar. You may want to reduce your energy bills and/or increase your property value. You may like the idea of producing some of your own power at home. You may value the opportunity to do your part to conserve energy and promote (11)..... quality by using an eco-friendly renewable energy resource

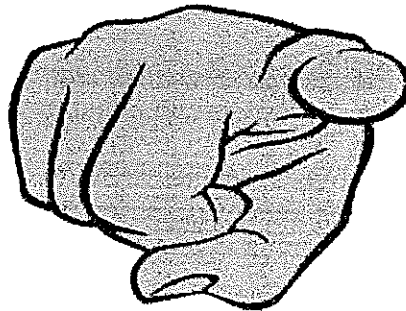
Even though solar energy offers many benefits, a (12)..... solar power system is not the first step to saving energy, money and the environment. If your home wastes energy, improving its energy-efficiency should be your first (13)..... An energy-efficient home reduces the amount of power you use from any source, so efficiency trumps renewable energy in being good for the environment, (14).....on renewable resources, helping our nation's energy security and keeping more of your money for other things.

A "high performance" home also could provide many other (15)..... such as (16)..... comfort, quality, durability and indoor air quality. It usually doesn't make good economic sense to install a rooftop solar system until your home is reasonably energy-efficient. Otherwise, you're spending money to produce electricity that you would not need if your home were more efficient. Investing in an effective home energy (17)..... typically produces a greater return on investment and costs less than a solar power system for the same reduction in electricity use.

Moreover, increasing the energy efficiency of your home reduces the size (and cost) of the solar system needed to supply your power needs. An (18).....to this general rule would be when major solar incentives are available but will soon expire or may be reduced. In such a case, it may be reasonable to first install a solar energy system that can supply up to half of your annual power need so you can take advantage of the(19)..... while they are available. That would leave room to still increase your home's efficiency up to 50 percent, so you could make the energy (20)..... afterward and reap the full benefits of efficiency plus solar energy

Q-4 Prepare your Curriculum Vitae in the space provided for the following job opportunity advertised below in the chronological form.

**WE
NEED
YOU!**



We are looking for a fresh new talented go getter

We looking for a high caliber person for the post of country resident manager. Resident Manager would be responsible for project start up, setting up of manufacturing facility, labour handling and meeting deadlines. He /She should have university education, proficiency in spoken and written Tamil, and English; relevant experience in management would be a distinct advantage. Applicants should be proficient in use of computers and between 28-37 years of age.

A series of horizontal dotted lines for writing, spanning the width of the page.

Q-5 Write a topic and a topic sentence to the following Paragraphs.

(a) We see that usually the chemical energy stored in fossil fuels is converted to usable forms of energy via heat by burning, with an efficiency of about 90%.

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(b) A biofuel is a fuel that is produced through contemporary biological processes, such as agriculture and anaerobic digestion, rather than a fuel produced by geological processes such as those involved in the formation of fossil fuels, such as coal and petroleum, from prehistoric biological matter. Biofuels can be derived directly from plants, or indirectly from agricultural, commercial, domestic, and/or industrial wastes.

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(c)

Wildlife traditionally refers to undomesticated animal species, but has come to include all plants, fungi, and other organisms that grow or live wild in an area without being introduced by humans. Wildlife can be found in all ecosystems. Deserts, forests, rain forests, plains, grasslands, and other areas including the most developed urban sites, all have distinct forms of wildlife. While the term in popular culture usually refers to animals that are untouched by human factors, most scientists agree that much wildlife is affected by human activities.

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(e) Games and sports are an integral part of a student's life. A student should study hard to be successful in competitive examinations. But, he/she should also play games and sports to enjoy the health and vigor of life. Along with bookish learning, a student should spend his time on games and sports. There are many people who give importance only to bookish knowledge. Indeed, there is often no provision for games at all. In the Western countries, education of boys and girls is no longer confined to the lecture-theatres alone.

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