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UNIVERSITI SAINS MALAYSIA

Peperiksaan Semester Pertama  
Sidang Akademik 2006/2007

Oktober / November 2006

**EUP 301/3 – Pengurusan Kejuruteraan**

Masa : 3 jam

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**Arahan Kepada Calon:**

1. Sila pastikan kertas peperiksaan ini mengandungi **TUJUH (7)** muka surat bercetak sebelum anda memulakan peperiksaan ini.
2. Kertas ini mengandungi **EMPAT (4)** soalan. Jawab **SEMUA (4)** soalan.
3. Semua soalan mempunyai markah seperti yang tercatat di penghujung soalan berkenaan.
4. Semua soalan **BOLEH** dijawab dalam Bahasa Malaysia atau Bahasa Inggeris ataupun kombinasi kedua-dua bahasa.
5. Semua jawapan **MESTILAH** dimulakan pada muka surat yang baru.
6. Tuliskan nombor soalan yang dijawab di luar kulit buku jawapan anda.

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12

**BAHAGIAN A – PENGURUSAN PEMASARAN**  
**(PART A – MARKETING MANAGEMENT)**

1. Read the following news and answer the questions.  
*Baca berita yang berikut dan jawab semua soalan.*

**Malaysia Aims to Be A Biotechnology Hub**

KUALA LUMPUR, Malaysia (AP) - Malaysia on Thursday opened a modern facility to make medicines using biotechnology, and offered millions of dollars to promote research. Prime Minister Abdullah Ahmad Badawi officiated the opening of a \$56 million complex in the Nilai industrial district, about 40 miles south of Kuala Lumpur. The plant is part of the government's efforts to become a regional biotechnology hub -- competing in a sector which is currently dominated by Europe and the United States. Abdullah also launched a RM 200 million fund to help firms conduct new initiatives in wide-ranging biotechnology fields such as health care, agriculture and industrial production.

The fund will provide grants and loans to new companies, especially those that require complicated patent registration and approval procedures to break into the international market. "Now we (will) have the funding infrastructure available to bring the research and development findings into the market," Iskandar Mizal Mahmood, chief executive of the government-run Malaysian Biotech Corp., which oversees the biotechnology industry, was quoted as saying by the New Straits Times newspaper. Biotechnology refers to the use of living organisms or cellular matter including DNA to manufacture organic dairy products as well as medicines such as insulin or antibiotics. Biotechnology can also be used in agriculture, for example in designing plants to make them grow under specific environmental conditions, and in industries to produce useful chemicals cheaply through designer organisms.

The new plant will be operated by Inno Biologics, a government-owned company involved in medical biotechnology, a relatively young sector that the government has aggressively promoted over the past two years through a string of tax incentives and infrastructure support. Malaysia has an estimated 100 biotech firms in a sector that the government hopes will constitute 5 percent of gross domestic product by 2020. One of Malaysia's biotech priorities is bio-diesel, touted as a cheap gasoline substitute. Malaysia is the world's main producer of palm oil, which can be used as a main ingredient of bio-diesel.

Source: The Associated Press, September 07 2006 10:38 AM ET

- (a) Konsep pemasaran bermasyarakat mengandung masyarakat (kebajikan manusia), pengguna (kepuasan kehendak) dan syarikat (keuntungan). Terangkan perhubungan di antara konsep ini dengan senario dalam berita di atas.

(15 markah)

*Societal marketing concept consists of society (human welfare), consumer (want satisfaction) and company (profit). Explain the relationship between this concept to the scenario of the above news?*

- (b) Terangkan persekitaran makro syarikat ini seperti persekitaran teknologi, politik dan asli yang berkaitan dengan berita ini.

(15 markah)

*Explain the companies' macro environments such as technological, political and natural environment that are relevant to this news.*

- (c) Dalam memasarkan bio-diesel, bagaimanakah pengeluar-pengeluarnya sepatutnya memasarkan inovasi mereka?

(10 markah)

*In marketing bio-diesel, how should its producers market their innovations?*



**BAHAGIAN B – PENGURUSAN SUMBER MANUSIA**  
*(PART B - HUMAN RESOURCES MANAGEMENT)*

2. Pampasan dan ganjaran merupakan satu fungsi Pengurusan Sumber Manusia yang merupakan bentuk pulangan kepada setiap individu yang melakukan suatu pekerjaan di sesebuah organisasi.

*Compensation is the HRM function that deals with every type of reward that individuals receive in exchange for performing organizational tasks.*

- a) Berdasarkan kenyataan di atas, terangkan maksud pampasan atau ganjaran kewangan langsung dan tak langsung serta komponen-komponennya. Beri contoh-contoh sesuai dalam konteks Pengurusan Sumber Manusia.

(8 markah)

*Based on the above statement, explain the meaning of direct and indirect financial compensations and their components. Give suitable examples in the context of Human Resource Management.*

- b) Jelaskan maksud kepuasan pembayaran. Apakah perbezaan di antara gaji samarata dan gaji setimpal? Huraikan juga kepentingan konsep-konsep tersebut dewasa ini.

(12 markah)

*What is pay satisfaction? What is the difference between equal pay and comparable worth? Why are these concepts so important today?*

3. Tempat kerja yang selamat, bersih dan aman merupakan aset penting bagi mana-mana organisasi untuk memberi perlindungan kepada majikan dan pekerja daripada apa jua kemalangan yang bakal menimpa. Kerajaan Malaysia telah memberi pertimbangan yang sewajarnya dengan meluluskan Akta Keselamatan & Kesihatan Pekerjaan (1994) untuk menangani aspek-aspek keselamatan di kawasan pekerjaan.

*A safe, secure, and healthy workplace is an important asset of any organization, a point that is underscored by the tremendously high costs of accidents and illnesses to both the employer and employee. The Malaysian Government has responded to this alarming problem by passing the Occupational Safety and Health Act (OSHA), 1994 in requirements for workplace safety.*

- a) Apakah keperluan undang-undang yang wajib disediakan oleh sesebuah organisasi bagi menjamin kesihatan dan keselamatan pekerja?

(10 markah)

*What legal requirements must an organization meet regarding health and safety?*

- b) Bagaimanakah liabiliti bagi sesuatu kejadian keganasan di tempat kerja ditentukan?

(10 markah)

*How is liability for a violent act committed in the workplace determined?*

**BAHAGIAN C – EKONOMI KEJURUTERAAN**  
**(PART C – ENGINEERING ECONOMY)**

4. (a) Kerajaan telah membuat keputusan untuk membina “Link Kedua” Pulau Pinang di antara Batu Maung di pulau dan Batu Kawan di Seberang Perai. Apakah faktor yang perlu diambil kira sebelum kerajaan membuat keputusan akhir mengenai penjajaran bagi link kedua ini. Terangkan konsep-konsep Ekonomi Kejuruteraan yang perlu dipertimbangkan sebelum membuat keputusan ini.

(10 markah)

*The government has decided to build the “Second Link” for Pulau Pinang, between Batu Maung on the island and Batu Kawan in Seberang Perai. What are the factors that ought to be considered before the government made the final decision on the alignment of the second link? Explain the Engineering Economics concept that needs to be considered before the decision was made.*

- (b) Berikan definisi untuk keanjalan permintaan dan keanjalan penawaran, dan berikan contoh bagi setiap satu kes ini. Berikan analisis untuk kelakuan yang mungkin untuk setiap jenis keanjalan.

(6 markah)

*Provide the definition for the demand elasticity and the price elasticity, and provide an example for each case. Provide an analysis of the possible behaviour of each type of elasticity.*



4. (c) Bina rajah aliran tunai untuk situasi berikut:

- i. Sebuah syarikat mempunyai aliran tunai keluar berjumlah RM100,000.00 pada masa sifar. Untuk tahun 1 hingga tahun 4, ia mempunyai aliran tunai masuk berjumlah RM40,000.00 setahun pada kadar "interest" 10% setahun dan satu amaun aliran tunai masuk yang tidak diketahui pada tahun 5.
- ii. Ah Chong ingin mendeposit wang bernilai P sekarang. Beliau berhasrat untuk mengeluarkan amaun yang sama untuk 4 tahun pertama pada amaun RM 1,500.00 setiap tahun, dan pada amaun RM 5,000.00 setiap tahun bagi tiga tahun berikutnya. Kadar "interest" adalah pada 10.5% setahun.

(4 markah)

*Construct flow diagrams for the following situations:*

- i) *A company has a RM 100,000.00 outflow at time zero, RM 40,000.00 per year in flow in years 1 through 4 at an interest rate of 10% per year, and an unknown future amount in year 5.*
- ii) *Ah Chong wants to deposit an amount P now such that he can withdraw an equal annual amount of RM 1,500.00 per year for the first 4 years starting 1 year after the deposit, and a different annual withdrawal of RM 5,000.00 per year for the following 3 years. The interest rate is 10.5% per year.*