**UNIVERSITI UTARA MALAYSIA**

**PEPERIKSAAN AKHIR**
SEMESTER PERTAMA SESI 2009/2010

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<th>KOD/NAMA KURSUS</th>
<th>BJMP 3053 STRATEGI OPERASI</th>
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<td>TARIKH</td>
<td>15 NOVEMBER 2009 (AHAD)</td>
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<td>MASA</td>
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**ARAHAN** :

1. Kertas soalan ini mengandungi EMPAT (4) soalan dalam LIMA (5) halaman bercetak tidak termasuk kulit hadapan.

2. Jawab SEMUA soalan di ruangan jawapan disediakan.

**INSTRUCTIONS** :

1. This examination paper contains FOUR (4) questions on FIVE (5) printed pages excluding the cover page.

2. Answer ALL questions in the spaces provided in the examination paper.

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**JANGAN BUKA KERTAS SOALAN INI**
SOALAN SATU (30 MARKAH)

Soalan satu adalah berdasarkan kepada kajian kes *Dresding Medical*. Jawab soalan-soalan berikut:

*Question one is based on the Dresding Medical case study. Answer the following questions:*

a) Kenalpasti keutamaan-keutamaan kompetitif syarikat tersebut dan terangkan bagaimana pasaran serta produk baru syarikat akan mengubah keutamaan-keutamaan kompetitif syarikat tersebut.

*Identify the company’s current competitive priorities and how are the new markets and products going to change the company’s competitive priorities.*

(12 Markah/Marks)

b) Menggunakan matrik produk-proses dan dimensi-dimensi teknologi nyatakan pilihan proses kini di atas continuum matrix tersebut dan tunjukkan bagaimana keputusan syarikat tersebut untuk melabur di dalam produk dan pasaran baru (seperti yang dinyatakan di dalam kes tersebut) akan mengubah pilihan proses tersebut ke posisi baru di atas continuum tersebut. Terangkan samada perubahan tersebut seperti yang diingini atau tidak.

*Using the product-process matrix and technology dimensions, describe the current process choice on the matrix continuum and show how the company’s decision to venture into new products and markets (as indicated in the case study) will move the process choice to a new position on the continuum. Explain whether the movement is desirable or not.*

(12 Markah/Marks)

c) Nyatakan TIGA (3) risiko yang mesti diambil oleh syarikat ini jika ia membuat pilihan untuk melabur di dalam teknologi baru tersebut.

*State THREE (3) risks that the company has to undertake if it decides to invest in the new technology.*

(6 Markah/Marks)
SOALAN DUA (22 MARKAH)

a) Nyatakan EMPAT (4) perbezaan di antara ciri-ciri proses pembaikan berterusan dan proses pembaikan breakthrough.

*State FOUR (4) differences between the characteristics or features of continuous improvement process and breakthrough improvement process.*

(12 Markah/Marks)

b) Bagaimanakah keperluan pasaran mengarah pembangunan berterusan proses pengoperasian?

*How do the needs of the market direct the ongoing development of operations processes?*

(4 Markah/Marks)

c) Bincangkan bagaimana teori Sandcone menerangkan turutan terbaik untuk memperbaiki prestasi operasi dan bagaimana prestasi tersebut ditambahbaik.

*Discuss how the Sandcone theory explains the best sequence in which to improve operations performance and how the performance being improved.*

(6 Markah/Marks)

SOALAN 3 (28 MARKAH)

a) Bincangkan bagaimana keberkesanan proses pembangunan produk dan perkhidmatan dinilai berdasarkan kemampuan memenuhi keperluan pasaran.

*Discuss how should the effectiveness of the product and service development process be judged in terms of fulfilling market requirements.*

(10 Markah/Marks)

b) Terangkan secara ringkas tahap-tahap di dalam pembangunan produk dan perkhidmatan.

*Briefly explain the stages in product and service development.*

(12Markah/Marks)
c) Terangkan konsep pencejajaran (fit) di dalam mensejajarkan sumber-sumber dengan keperluan pasaran dan di dalam mensejajarkan kedudukan pasaran dengan kemampuan-kemampuan sumber-sumber operasi. Bagaimanakah kedua-duanya dicapai?

*Explain the concept of fit in terms of aligning resources with market requirements and aligning markets positioning with operations resources capabilities. How are both achieved?*

(6 Markah/Marks)

**SOALAN 4 (20 MARKAH)**

a) Senaraikan enam elemen Pengurusan Kualiti Menyeluruh (TQM)

*List the six elements of Total Quality Management (TQM).*

(12 Markah/Marks)

b) Terangkan maksud perkataan *lean* di dalam *Lean Operations* dan terangkan bagaimana sistem pengeluaran ‘tarik’ dapat membantu sesebuah syarikat menjadi ‘*lean*’ berbanding sistem tradisi ‘tolak’

*Explain the meaning of the term ‘*lean*’ in *Lean Operations* and explain how the pull production system help a company to become ‘*lean*’ compared to the traditional push system.*

(8 Markah/Marks)
Case Study- Dresding Medical

Since founding her company over ten years ago, Dr. Laura Dresding had never been either so anxious or so enthusiastic about the future of Dresding Medical (DM). The company had enjoyed considerable success, both financial and in terms of market share by designing, manufacturing and supplying a range of medical equipment to hospitals and clinics throughout the USA. Starting with cardiovascular devices, their range expanded to include neurological stimulators and monitoring diagnostic devices.

"Success has come largely from our research and development culture. Although around 50 percent of our total manufacturing is done in-house, our core competence is an ability to understand the needs of clinicians and translate those into our products. We were among the first to expand the range and functionality of this type of equipment and integrate it with sophisticated diagnostics software. Admittedly our products tend to be relatively highly priced and we are coming under some cost pressures, but because of our technical excellence and our willingness to modify equipment to individual customer needs, we avoid too much pressure on our prices."

DM's operations planning and control systems had been relatively informal. A team of specialist sales technicians discussed individual clinical needs with customers and wrote a 'product specification' for manufacturing to work to. Around 70 per cent of all orders involved some form of customisation from standard 'base models'. Manufacturing would normally take around three months from receiving the specification to completing assembly. This was not usually a problem for most customers; they were more interested in equipment being delivered on time rather than immediate availability. The manufacturing department was largely concerned with assembling, integrating and (most importantly) testing the equipment. Most components were made by suppliers who had been doing business with DM for some years and were capable of accommodating their strict quality requirements and their need to customize components. Laura Dresding knew the strengths and weaknesses of her manufacturing operations.

"Manufacturing is really a large laboratory. It is important to maintain that laboratory-like culture because it helps us to maintain our superiority in leading-edge product technology and our ability to customise products. It also means that we can call upon our technicians to pull out all the stops in order to maintain delivery promises. However, I'm not sure how manufacturing, or indeed the rest of the company, will deal with the new markets and products which we are getting into".
Dr. Dresding was referring to a new generation of ‘small black box’ products which the company had developed. These were significantly smaller and smarter devices which were sufficiently portable to be attached to patients or even implanted. For example, a cardiac defibrillator which, when necessary, can jolt the heart into maintaining a healthy rhythm and diagnose how and why the heart has gone wrong. Other products included drug delivery systems and neurological implants. All these new products had two things in common. First, they took advantage of sophisticated solid-state electronics and second, they could be promoted directly to consumers as well as to hospitals and clinics. Dr. Dresding was under no illusions about the significance of these changes.

‘On the market side we have to persuade health care and insurance companies to encourage these new devices. They may be expensive in the short term but they can save money in the long term. We are hoping that customer pressure will act in our favour. What is more problematic is our ability to cope with these new products and the new market they are addressing. We are moving towards being a consumer company, making and delivering a higher volume of more standardised products where the underlying technology is changing fast. We must become more agile in our product development. A new base model currently takes over three years to develop; we cannot afford to develop the new products in any more than 12 months. Also, for the first time, we need some kind of logistics capability. I’m not sure whether we should deliver products ourselves or subcontract this. Manufacturing faces a similar dilemma. On one hand it is important to maintain control over production to ensure high quality and reliability; on the other hand, investing in the process technology to make the products will be very expensive. There are subcontractors who could manufacture the products for us, they have experience in this kind of manufacturing but not in maintaining the levels of quality we will require. We will also have to develop a ‘demand fulfillment’ capability which will be able to deliver products at short notice. It is unlikely that customers would be willing to wait the three months our current customers tolerate. Nor are we sure of how demand might grow. I’m confident that growth will be fast but we will have to have sufficient capacity in place not to disappoint our new customers. We must develop a clear understanding of the new capabilities which we will have to develop if we are to take advantage of this wonderful market opportunity. Who knows, it could become the first step in transforming the whole company. I see no reason why, eventually, we should not move into running health management clinics ourselves. We are already developing technologies that could monitor patients at a distance. We can even re-programme implanted devices, without surgical intervention, based on our diagnostic systems. I know all these actual and potential changes suggest that we need to develop separate types of operation to service the different markets, but I really am reluctant to destroy the culture of technical excellence we have built up with our current operation.’