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# MIDAS BULLETIN

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## MAKLUMAT INDUSTRI DAN SAINS INFORMATION SERVICE FOR COMMERCE & INDUSTRY

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### **MAKLUMAT PERDAGANGAN DAN PERNIAGAAN/ TRADE AND COMMERCIAL INFORMATION**

#### **MALAYSIA PLANS TO DEVELOP GHS**

Malaysia hopes to implement the chemical hazard classification and communication system based on the Globally Harmonised System (GHS) by year-end. GSH, a system to define and classify hazards through a uniform hazard information on labels and safety data sheet to be used in worldwide communication, will be implemented in four sectors -- industrial workplace, agriculture, transport and consumer products. The international structure for harmonizing classification and labeling systems for chemicals will have a beneficial impact on chemical trade, the exchange of information related to chemicals, the cost of risk assessment and management of chemicals and ultimately the protection of workers, the general public and the environment. A plan to implement the GHS was adopted at the 2002 UN World Summit on Sustainable Development, held in Johannesburg, South Africa. Countries were encouraged to have the GHS fully operational by 2008. Sources were quoted.

## MAKLUMAT PENGELUARAN / PRODUCT INFORMATION

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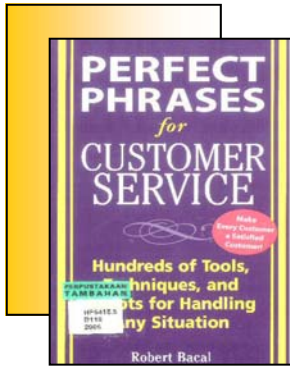
info@usainsgroup.com, hamidwahab@usainsgroup.com, azizi@usainsgroup.com

MEDICAL / PHARMACEUTICAL		
No.	Title	Notes
1.	ABRa 2	A chair design for rehabilitation for the physically disabled child
2.	AiPap System	Software for automatic cervical cancer diagnosis
3.	Allofibular Composites	An ideal reconstruction for bone tumours
4.	Allograft Prosthetic Composite (APC)	A combination of prosthesis and allograft as an alternative to expensive modular megaprosthesis
5.	ALPHa 3	Rehabilitation apparatus to facilitate walking and posture development
6.	EzAmp Octaplex Cholera Kit	A thermostabilized and rapid DNA-based diagnostic kit for the simultaneous detection of serogroups, biotypes, virulent genes and tetracycline resistant gene of <i>Vibrio cholerae</i>

7.	Apparatus for Rehabilitation of Open and Close Fracture/Lower Limb Injuries	Physiotherapeutic apparatus for unsupervised exercise
8.	Brugia RAPID™	A new innovation for diagnosis of filariasis
9.	CeraDent	Locally formulated dental porcelain
10.	Cholera DNA Rapid	Rapid single tube thermostabilised PCR based test for cholera
11.	A Community Friendly Advanced Mobile Dental Clinic	Prototype advanced mobile dental clinic with X-ray facilities built upon a bus chassis
12.	CORAGRAF	Bone graft material crafted from corals
13.	EZDNA Amp	Complete kit with thermostabilized reagents for <i>in vitro</i> amplification of DNA
14.	EZEBV Amp Epstein-Barr	A DNA-based diagnostic kit for detection of Epstein-Barr virus nasopharyngeal carcinoma (NPC)
15.	E-TAC (Early Treatment Avoid Complication)	A low cost but effective pylon to assist amputees
16.	CREST (Cerebral Palsy Rehab. Station)	Low-cost apparatus for assisting rehabilitation of cerebral palsy patients
17.	EZTB Amp PCR Kit	Rapid <i>Mycobacterium tuberculosis</i> (TB) PCR detection kit
18.	NeuralPap System	Pap smear slides can now be screened automatically by computer powered by the NeuralPap algorithms
19.	The Neurojaf 5 <sup>th</sup> Ventricular Set	An external ventricular drainage especially good for haematomas and tumour debri

20.	NutraSens Disposable Artificial Tongue for <i>Eurycoma longifolia</i> Jack	Handheld electronic device for verification of tongkat ali extracts
21.	Pharmacognosical Evaluation & Standardization of Pegaga ( <i>Centella asiatica</i> )	Standardisation data and procedure for testing and analytical purposes
22.	Pharmacognosical, Phytochemical, Antidiabetic, and Cardiovascular Studies of Sambung Nyawa ( <i>Gynura procumbens</i> ) Leaves	Standardisation data and procedure for testing and analytical purposes
23.	DENTEC	Radio-opaque denture base material derived from ploy(methyl methacrylate)
24.	REKAGRAF Reformulated Calcium for Bone Grafting	A safe effective and readily available material for replacement of diseased bone in humans or animals
25.	Reusable Endosurgical Grasper	Cost-effective instrument for laparoscopic surgical techniques
26.	STAE Seat Confvertor <sup>R</sup>	Portable gadget and accessory for cervical and lumbar support
27.	Standardization, Biopharmaceutics and Bioactivity of Misai Kucing ( <i>Orthosiphon stamineus</i> Benth.)	Standardisation data and procedure for testing and analytical purposes
28.	Standardized Herbal Extract for Kidney Stone and Related Disease	Standardisation data and procedure for testing and analytical purposes
29.	Standardizing Sembong ( <i>Blumea balsamifera</i> ) Extracts for Kidney Stone and Related Diseases Using a Taste Sensor	Standardisation data and procedure for testing and analytical purposes
30.	3-D Craniofacial Surgical Simulator (Surgi-Try)	Rapid prototyping produces exact anatomical models from CT and MRI data
31.	Typhirapid	Rapid IgM test for diagnosis of acute typhoid fever
32.	VCUSM1/2 vaccine	A patented vaccine candidate for O139 cholera

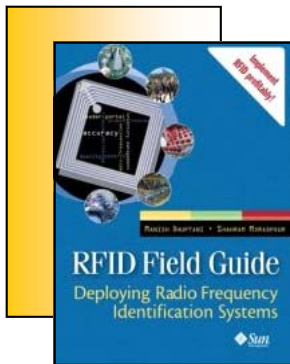
## ULASAN BUKU/ BOOK REVIEWS



### **PERFECT phrases for customer service: hundreds of tools, techniques and scripts for handling any situation.**

Bacal, Robert. New York: McGraw-Hill, 2005.  
(HF5415.5.B116 2005)

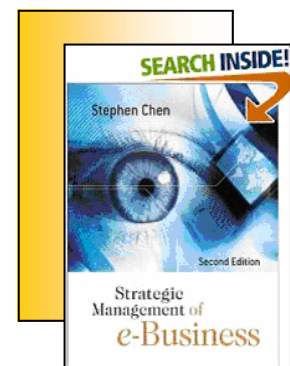
This book gives the tools to interact with customers more effectively. It is not full of principles or platitudes, or handy customer service slogans but focuses on doing things right. What should we do with a customer who is swearing at us? What do we do to prevent customers who have waited a long time from getting really angry? This book will answer these questions, and many others about customer service situations. This book is about solutions.



### **RFID field guide: deploying radio frequency identification systems**

Buptani, Manish & Moradpour, Shahram.  
Upper Saddle River, NJ: Sun Microsystems/Prentice Hall PTR, c2005. TS160.B575 2005

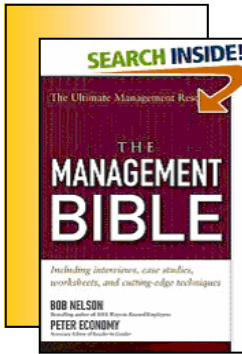
This book is a comprehensive guide to planning, designing, and deploying RFID technology into your business. Two leading RFID experts draw on their extensive experience to cut through the hype associated with RFID technology and present the realities. The authors begin by explaining how RFID works, and identifying mature and emerging RFID applications that can reduce expenses, increase revenue, and drive competitive advantage. Next, they present a complete framework for assessing and deploying RFID from budgeting to team building, standards to security, vendor selection to integration.



### **STRATEGIC management of e-business.**

Chen, Stephen. 2<sup>nd</sup> ed. Hoboken, N.J.: John Wiley, 2004.  
(HF5548.32C518 2004)

This book focuses on strategic implications of e-Business and examines the e-business strategies being employed by firms in a range of different industry sectors. This new edition contains updated and new case studies, as well as recognizing the developments in the field.



### **THE management bible.**

Bob, Nelson & Economy, Peter. Hoboken, N.J.: John Wiley, 2005  
(HD38.15.N424 2005)

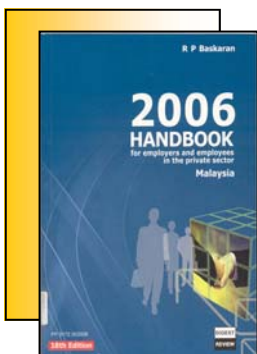
*The Management Bible* is the most comprehensive book on the topic of management available anywhere. It offers in-depth coverage of the entire range of essential topics for today's managers and supervisors from beginners to seasoned veterans and includes practical, effective solutions for the daily problems every manager faces. In addition to planning, strategy, solutions to common problems, the book also includes proven tips and tactics that help managers into more effective, efficient leaders



### **PROFIT, growth and risk: an executive guide to modern Purchasing**

Gilmour, Iain & Billson, Ian. London: Spiro Press, 2004  
(HD39.5.G488 2004)

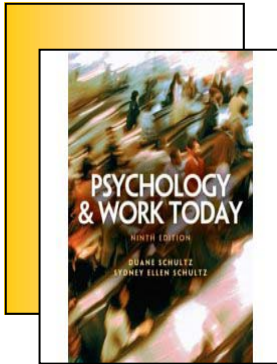
This book presents the need for purchasing to be seen as an underlying business process and not a specific function. The book is divided into three parts, with Part 1 is an overview of the more general theory and strategy considerations that lie behind modern purchasing activity and Part 2 consists of rather more detail covering current professional practice and tools. Finally, Part 3 looks at some areas of interest to those with specific responsibilities.



### **2006 HANDBOOK for employers and employees in the private sector.**

Baskaran, R.P. 18<sup>th</sup> ed. Sungai Petani, Kedah.: Digest Review, 2006.  
(HD6971.B3154 2006)

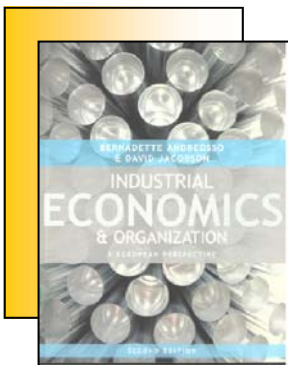
The handbook explains, with examples, in an easy-to-read style and provides practical and effective explanations on the following subject matter relating to human resources management, financial management, and company administration.



### **PSYCHOLOGY & work today.**

Schultz, Duane P. & Schultz, Sydney Allen. 9<sup>th</sup> ed. Upper Saddle River, N.J.: Pearson Prentice Hall, 2005.  
(HF5548.8.S3875 2006)

This book presents preparatory guide for entering today's global business and industrial world. This informative, sophisticated, and entertaining book informs readers about the nature of work in modern society. Focusing on the practical and applied knowledge, it shows how industrial-organizational psychology directly influences our lives as job applicants, trainees, employees, managers, and consumers. Topics include human resource development (employee selection, psychological testing, performance appraisal, and training); leadership, motivation, job satisfaction, and job involvement; working conditions, safety, violence, and health in the workplace; and engineering and consumer psychology. Hot-button issues such as Internet addiction and social isolation, discrimination based on genetic testing, ethnic harassment, and executive coaching are discussed and debated.



### **INDUSTRIAL economics & organization: a European perspective**

Andreosso-O'Callaghan, Bernadette & Jacobson, David.  
2<sup>nd</sup> ed.  
London:McGraw-Hill Education, 2005.  
(HD2844.A559 2005)

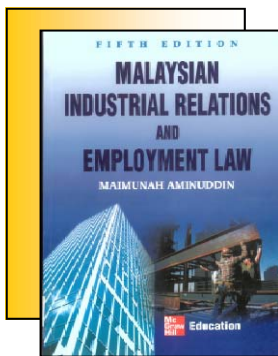
*Industrial Economics and Organization: A European perspective*, second edition provides an authoritative account of both traditional and current theories in industrial economics. Integrating new material on recent theoretical developments, as well as recent political and economic changes, it draws on European examples to illustrate key concepts to the reader.



**INTERNATIONAL conflict and the global economy.**

Mansfield, Edward D, ed. Cheltenham, UK: Edward Elgar Publishing, 2004.  
(HF1359.I62 2004)

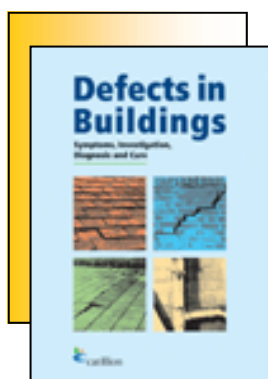
The relationship between the global economy and national security has been an enduring source of interest and debate. This volume contains a set of pioneering studies that paved the way for contemporary work on the political economy of national security as well as some more recent contributions to this literature. These papers address the influence of international economic relations on political conflict, the use and effectiveness of economic statecraft, and the effects of national security concerns on foreign economic relations. The articles contained in this volume will chart a path for research on these topics for years to come.



**MALAYSIAN industrial relation and employment law.**

Maimunah Aminuddin. 5<sup>th</sup> ed. Kuala Lumpur: McGraw-Hill, 2006.  
(HD8700.6.M554 2006)

This book presents the role of the Malaysian government in industrial relations, trade unions, trade disputes, the Industrial Court, and industrial action. Safety and health issues have been included in this edition and the material on the requirements of the various employment laws has been extended and expanded. Concepts are illuminated with cases, examples and relevant statistics. It also provides an updated and thorough coverage on a subject of importance to students of human resource management, trade union leaders, managers of small firms and workers themselves. The Malaysian system of industrial relations and employment law is described in detail to ensure readers understand these keys areas of concern which affect the well-being of everyone in society today.



**DEFECTS in buildings: symptoms, investigation, diagnosis and cure.**

London: Stationery Office Books, 2001. (TH441.D314 2001 f)

This book is intended for all those who control the management and repair of buildings. Diagnosing defects in buildings saves time and effort for designers, builders and manufacturers and can reduce correction costs by a factor of five. With a chapter for each building component this revised and illustrated edition uses photographs and diagrams to look at deterioration, the durability of materials, and the principles of diagnosis and investigation.



## **MAKLUMAT PENYELIDIKAN DARI USM/ RESEARCH INFORMATION FROM USM**

### **IMPROVEMENT OF IMAGE QUALITY BY USING PHYSICAL FILTERS IN NUCLEAR MEDICINE IMAGING**

Sayed Inayatullah Shah<sup>a</sup>, Ahmad Zakaria<sup>b</sup> and Tuhin Haque<sup>b</sup>  
School of Health Sciences<sup>a</sup> and School of Medical Sciences<sup>b</sup>  
USM Health Campus

#### **ABSTRACT**

Single Photon Emission Computed Tomography (SPECT) is one of the diagnostic modality of nuclear medicine technology, which is used as an important tool for diagnosis of diseases in human. The limits of this modality among the others are due to equipment and the gamma photon physics viz., scattering and absorption of gamma photons in the patient's body. Due to the scatter effect, image quality is degraded and the non-linearity in the quantitation of radioactivity uptake is resulted. The work presented here attempts to explore the use of unconventional (material) filters in the Tc-99m SPECT for enhancement of image quality by reducing the effects of scattered gamma photons. Carlson phantom is scanned by mounting the filter (s) on the collimator face with cold and hot region inserts filled with water and Tc-99m radionuclide was uniformly distributed within the phantom. Images of the same phantom are also acquired without material filter (s). Individual studies have been carried out for each material filter by using either LEGP or LEHR collimator. The standard energy window (126-154 keV centered at 140 keV) is chosen for the data acquisition. Results show that the perceived image quality of hot and cold region and also their detectability has been improved when unconventional filters are used. It is concluded that this approach may have important clinical applications.

### **THE AETIOLOGY AND MOLECULAR CHARACTERIZATION OF COLLETOTRICHUM SPECIES CAUSING POST HARVEST DISEASES OF POST HARVEST CROPS**

Maziah Zakaria, Latiffah Zakaria and Baharuddin Salleh  
School of Biological Sciences  
USM Main Campus

#### **ABSTRACT**

Post-harvest losses of many local fruit crops are substantial in Malaysia because of various diseases caused by *Colletotrichum* species. In this study three types of fruit were chosen namely banana, papaya and guava. It was found that the symptomatology of infection by the *Colletotrichum* isolates varies surprisingly little between the different hosts. The disease exhibits the phenomenon of quiescence in which symptoms do not develop until the produce ripens. The study also showed, morphologically the shape and size of conidia and appressoria of the three isolates were not significantly different. The growth rates of their colonies also did not show any significant difference too. Result from DNA analysis showed only slight variations in the banding patterns. Therefore, from the results of morphological studies and DNA analysis it could be concluded that the causal fungal was *C. gloeosporioides*.

## **USING SOLAR ELECTRICITY TO OPERATE AN ENERGY EFFICIENT FAN GENERATING AIR MOVEMENT FOR THERMAL COMFORT INDOORS AND OUTDOORS**

Abdul Malik Abdul Rahman  
School of Housing, Building & Planning  
USM Main Campus

### **ABSTRACT**

To experience a thermally comfortable natural environment in a hot humid climate, one is to be under shade and experience some ample air movement concurrently. The Malaysian climate lacks the much needed air velocity for comfort and therefore have to rely on mechanical aids that use paid energy. The chlorofluorocarbon (CFC) emitted from air-conditioners is detrimental to the already worrying state of the ozone layer. The power comes from the use of electricity that comes from depleting the fossil fuels. The hypothesis is to create a lot of air movement relying on the electric fan without increasing the energy consumption to cool the building interior and indirectly the building fabric. Between the electric fan and air-conditioning the electric fan is more environmental friendly. This research presents initiatives to design a fan that can produce a wider cone of air movement by its physical and dimensional design and also verified that existing fan designs in Malaysian markets are unsuitable for its climate because they need more electrical energy to generate air movement for a bigger catchment area. Coupled with electrical supply from photovoltaic panels supplying direct current to the already and energy efficient fan, very significant savings are obtained.

## **PROTEOMICS OF SNAKEHEAD FISH (CHANNA STRIATA) MUSCLE TISSUE**

Lay-Harn Gam, Chiuan-Yee Leow and Saringat Baie  
School of Pharmaceutical Sciences  
USM Main Campus

### **ABSTRACT**

Snakehead fish or also know as 'haruan' is recognized in Asia Pacific countries as a remedy for healing of wounds. The fish enhances dermal wound healing, reduce post-operative pain and discomfort. The efficacy of wild type snakehead fish has made it a common food served to women after childbirth or those who undergo surgical operation. Due to its high demands of snakehead fish farming of Snakehead fish is now carried out commercially, however the cultured fish has been said to produce different texture from the wild type fish. In this study, analysis of protein composition of the fish is carried out. Wild type Snakehead fish of different sizes and caught in different months of the year were compared. The data shows that the smaller fish yielded higher protein content as compared to the bigger fish, however the protein profile of the fishes is similar for all the different months of catching and different sizes of fish. The major group of protein in Snakehead fish is enzymes, followed by structural proteins. The consistent protein profile displayed can be used as a reference for farming and culturing of Snakehead fish.

## **SUCCESSFUL WOMEN**

Intan Osman, Adida Yang Amri, Mahfooz A Ansari, Zainal Ariffin Ahmad, Ummu Kolsome dan Rehana Aafaqi  
School of Management  
USM Main Campus

### **ABSTRACT**

The study focused on how women define “success” with regards to work and what factors influence or inhibit “success”. Success in this study is measured objectively and subjectively. It showed that respondents perceive themselves as having a need for power an achievement where they seek for something mentally challenging and engaging that can be obtained at the workplace. Support from spouse is perceived as having an edge over support from supervisors a culture that tends to relegate women to the house, enabling women to hold their own in society and at the same time be able to execute the job undertaken. They seemed to likely use rational and self-enhancement tactics to get the boss to agree to their request, preferring to being forthright, open and honest. Work was perceived to interfere more with family rather than family interfering with work perhaps owing to the women having to rely on the extended family or upon good house help in the form of maids explaining why women choose to linger at middle level management as moving further up would be at the expense of spending time with family. It appears that self-efficacy has significant relationship with perceived subjective success. The push wanting to be somewhere, wanting to do something will drive some of them very hard to achieve what they wanted to do. Respondents perceive family involvement as the main hindrance toward success because Malaysian women are generally expected to manage the family even if they are working. Submissiveness, complacency, non-rational and lack of career orientation were argued to be an outcome of being too involved in family affairs. Women may have come to a point that they are not able to reach the highest echelons of management and be involved in family affairs as well. Thus they have decided to choose a path that allows them to achieve what they perceive as a balance.

## **SOME LABORATORY STUDIES ON THE CARBONISATION OF BRIQUETTED TROPICAL WOOD SAWDUST**

K.O. Lim, S.P. Tan and P.L. Chung  
School of Physics  
USM Main Campus

### **ABSTRACTS**

Commercially produced tropical wood sawdust briquettes were carbonized in laboratory using a muffle furnace. The carbonization was done at different terminal temperatures with different rates of temperature increase. The emissions produced during the carbonization process were also condensed and collected. The results indicate that charcoal, of higher yield, lower moisture and with fewer numbers of cracks appearing on the product, are produced when the rate of heating is slower. Fixed carbon contents (dry basis) as high as 86% can be achieved when the sample is carbonized at a terminal temperature of 650°C. The amount of condensate collected was found to be quite independent of the terminal carbonization temperature when the heating rate was low but decreased as terminal temperature increased when the heating rate was higher. The pH value of all condensates was found to be 3.

## **PERFORMANCE AND DURABILITY OF UV CURVE SURFACE FINISHED ON PRESERVATIVE TREATED WOOD**

Rokiah Hashim, R.N. Kumar and Othman Sulaiman  
School of Industrial Technology  
USM Main Campus

### **ABSTRACT**

The study investigates the effect of wood preservatives on the curing and performance of ultraviolet (UV) curable coatings. The preservatives used were basileum, boric acid, and borax pentahydrate. The analysis was divided into two parts; first by incorporating the wood preservative (basileum) in the coating material and secondly impregnating the wood with preservatives (basileum, boric acid, borax pentahydrate) and evaluates its effects of application on the curing of UV coating. The results from the pendulum hardness showed that when the concentration of the basileum increased the UV curing would be decreased. This was further confirmed from the FTIR study showing the wavelength of the basileum and the photoinitiator were apparently the same. The study showed that 2% of basileum did not interfere in the UV curing as has been determined from the adhesion, film pencil hardness, and gel content. From the second analysis, the results showed that the mortality and the wood consumption of termites were proportional to the concentration of basileum whereas for wood treated with borax pentahydrate and boric acid showed higher mortality but low in wood consumption. For the soil block test, all the three preservatives showed reduction in wood consumption as the concentration of the preservatives increase. The presence of preservatives showed lower in the adhesion and film hardness on the wood surface. There was no change in the wood coating after 6 cycles of the cold check test.

## **R<sub>FACTOR</sub> TO DETERMINE THE REYNOLDS NUMBER OF SATURATED WATER FLOWING IN TUBES**

Fauziah Sulaiman<sup>1</sup> and Balbir Singh Mahinder Singh<sup>2</sup>  
School of Physics  
USM Main Campus

### **ABSTRACT**

Fluid flowing in a tube is commonly used in practice for heating and cooling applications. The flow in a tube can be laminar or turbulent, entirely depending on the flow conditions. It is therefore, useful to know the nature of the flow, especially in evaluating the Nusselt Number. Osborn Reynolds, in the 1880's, discovered that the flow depends mainly on the mean flow velocity  $V$ , inner tube diameter  $D$  and the kinematic viscosity  $\nu$  and this led to the formulation of the Reynolds number, a dimensionless physical quantity. The parameters defining Reynolds number are dependent on temperature, whereby an accurate representation of this number will be critical in the determination of the flow regimes. This problem was solved by obtaining a temperature dependent model, which represented these parameters. The temperature dependent model obtained by using the reciprocal quadratic fit is called the  $R_{FACTOR}$ , determined in the temperature range of 0°C to 360°C, and for saturated water.

## PERKHIDMATAN KESEDARAN KINI/ CURRENT AWARENESS SERVICE

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