Buletin UniKL MIMET

UniKL MIMET

AHOY!

Transforming Leaders

Perkhemahan silaturrahim Kelab Kakitangan MIMET 2012

(berita bergambar)

2nd PRIZE UniKL Essay writing competition 2012

(berita bergambar)

JULY - OKTOBER #10 2012

"DESULFATION CIRCUIT"

BOOST WINNING SPIRIT IN 2012

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FROM THE CHIEF EDITOR

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SOME CODE OF ETHICS FOR MARITIME PROFESSIONALS

Maritime professional and engineering work continues to be an increasingly important factor in the progress of civilization and in the welfare of the community. The Maritime Profession is held responsible for the planning, construction and operation of such work, and is entitled to the position and authority that will enable it to discharge this responsibility and to render service to humanity. Honesty, justice and courtesy form a moral philosophy that, associated with the mutual interest among all peoples, constitutes the foundation of ethics.

As Maritime Professionals, we should recognize such standards, not by passive observance, but as a set of dynamic principles to guide conduct.

The Maritime Professionals maintain and advance the integrity, honor and dignity of their professions by:

Using their knowledge, experience and skill for the enhancement of human well-being and as good stewards of the environment, striving to increase the competence of the professions of naval architecture, marine engineering and maritime operation/management, and being honest and impartial, and serving with fidelity the public, their employers and clients.

* The Maritime Professionals shall carry on their professional work in a spirit of fairness to employees and contractors, fidelity to clients and employers, loyalty to their country, and devotion to the high ideals of courtesy and personal honor.

* The Maritime Professionals shall hold paramount the safety, health and welfare of the public in the performance of their professional duties. They will interest themselves in the public welfare, in behalf of which they will be ready to apply their special knowledge, skill and training for the use and benefit of mankind.

* The Maritime Professionals shall refrain from associating themselves with, or allowing the use of their names by, any enterprise of questionable character.

* The Maritme Professionals shall advertise only in a dignified manner, being careful to avoid misleading statements.

* The Maritime Professionals shall regard as confidential any information obtained by them as to the business affairs and technical methods or processes of a client or employer.

The above are some of the code of ethics for maritime professionals which are perhaps relevant for those in the maritime industry.

Mazlan Muslim

THE CAPTAIN'S WAKEY-WAKEY CALL

السلام عليكم ورحمة الله وبركاته

MARITIME EDUCATOR AND TRAINER

'Alert' is a publication of The Nautical Institute, London. In its April 2009 (Issue No 20) were these words "The STCW Code requires that all seafarers should be properly qualified for the positions they hold on board. And, instructors, supervisors and assessors are required to be "appropriately qualified".

Of equal importance is the need for the maritime college lecturers to be "properly qualified" to teach those competencies for which they are employed to teach, and to have an up-to- date appreciation of modern day ship operations and of the new technology aboard ships."

What it means is that it takes a special kind of person to be a maritime educator and instructor. STCW requires the he/ she have an "appropriate level of knowledge and understanding" and have received "proper training in instructional techniques and training in assessment methods". Actually, the knowledge, skills and attributes required of marine educators and trainers are many and varied.

They need to be aware of the human element issues that can affect the design, management and operation of ships. These include interaction of humans with other humans, machines, and other systems. Also how social conditions can affect the wellbeing of crews.

Does being an experienced Mariner help? The short answer is "yes", but being one does not necessarily make one a good educator or trainer. The world of work at sea is very different from that on shore. On board a ship there is a structure of responsibility and authority which does not exist on- shore. On land, one need to learn more to negotiate, agree to work together and implement. On the ship or at the sea it is decision and action only. One very important attribute of an educator is the desire to help others learn. Other attributes required are subject knowledge (it goes without saying), communication ability, integrity, cultural awareness, patience and pedagogy (which is strategies of instruction and the correct use of those knowledge). Andragogy is also a necessity presently, as for many students are now adults or working personnel. The aim is to assist students to learn on their own using the latest available technological advances. Students must grasp the concept of life- long learning, (learning to learn on your own). I hope that all of us, the academic staff of UniKL – MIMET, realizes the importance of being an educator here. Our aim is not just to impart knowledge but also imbibe good values which will produce holistic rounded human beings for the future.

-HAPPY EDUCATING-

Prof Dato' Dr. Mohd Mansor Salleh
Dekan / Ketua Kampus UniKL MIMET

" The world of work at sea is very different from that on shore. On board a ship there is a structure of responsibility and authority which does not exist on- shore. On land, one need to learn more to negotiate, agree to work together and implement. On the ship or at the sea it is decision and action only. One very important attribute of an educator is the desire to help others learn."

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Tahniah diucapkan kepada staf tersebut. Diharap akan lebih komited dan bersemangat untuk terus berkhidmat dengan cemerlang bagi kemajuan UniKL MIMET.

SELAMAT PENGANTIN BARU

Keluarga MIMET makin bertambah dengan berlangsungnya perkahwinan staf MIMET dengan pasangannya. Semoga jodoh berpanjangan buat staf, ***Pn. Mariam Hafizah Mukhtar (Pembantu Pustakawan)*** *dengan pasangannya.*

2ND YOUNG LEADERS AND ENTREPRENEURS EDUCATIONAL TOUR TO PHUKET THAILAND

In support of the university's vision and mission, UniKL MIMET is organizing an educational tour for our aspiring young leaders and entrepreneurs to Phuket, Thailand.

A group of 34 students from various programs such as Naval Architecture and Ship building, Ship Construction and Maintenance, Ship Design, Marine Engineering and Marine Electrical and Electronics has been selected. The objectives of this visit are to give useful exposure of the regional marine industries developments to our undergraduates through the exchange of ideas and experiential learning in Phuket, Thailand.

Besides that, to study the engineering technology used by the Thai Marine Centre Fiberglass Boats Construction (TMCFBC) in Phuket for fiberglass boat production including speedboats, catamarans canoes kayaks, passenger carrying craft, boat renovations, private and commercial. And last but not least, to visit Royal Phuket Marina (RPM) as one of the most distinguished World-Class destinations combining luxury waterfront living with a state-of-the-art marina within itself. She probably is Asia's most sophisticated high tech yachting haven and is proud to be awarded with the Marina. This six days program was started on 2nd July to 7th July 2012.

The first educational trip was at Thai Marine Center. This centre was first established in 2004 to lead Thai and Marine Industry in manufacture and sale of extensive line of superior qualities fiberglass boats. Majorly operating in boat and yachts building, as well as offering services in repairing fiberglass boats.

The second visit was at Royal Marina Phuket. Royal Phuket Marina is Asia's most sophisticated high-tech yachting haven and is proud recipient of the prestigious '5 Golden Anchor Award' bestowed by the British Yacht Harbor Association.

Despite the two visits, the morning session were fully occupied with discussion on the upcoming July 2012 Induction Week for MSR. This session was fully conducted by Jawatankuasa Perwakilan Mahasiswa (JPM).

By this program, participants were exposed with practical knowledge in fiberglass boat construction in term of its high technology and best marine class materials. Besides that, participants learn about Royal Phuket Marina as one of the most distinguished world class destinations. And last but not least, it is valuable international exposure program for the students.

(more pict. in Lensa AHOY)

Power Generation Plants

I. Coal-Fired Power Plants

Introduction

Power plant generates electricity from another source of energy such as burning of coal, nuclear reactions, flowing of water etc. Nowadays, there are many types of power plants such as steam power plant, hydro power plants, combined-cycle power plants, coal-fired power plants and many more.

Coal-Fired Power Plants in Malaysia

Rankine cycle is a cycle that converts heat into work and this cycle generates about 90% of all electric power used throughout the world. Rankine cycle most closely describes the process by which steam-operated heat engines most commonly found in power generation plants generating power. The two most common heating processes used in these power plants are nuclear fission and the combustion of fossil fuels such as coal, natural gas, and oil.

Sultan Salahuddin Abdul Aziz Power Station in Kapar, Selangor was the earliest coal-fired power plant operated in Malaysia. The plant commenced operation in 1988. This was followed by the Sejingkat Power Plant in 1997. The list of coal-fired power plants in Malaysia is showed in Table 1.

Table 1. Coal-Fired Power Plants in Malaysia [1]

Plant	Operator	Configuration	Fuel	Location
Jimah Power Station	Jimah Energy Ventures Sdn Bhd	2 X 752 MW	Bituminous coal, subbituminous coal	Jimah, Negeri Sembilan
Sultan Azlan Shah Power Station	Tenaga Janamanjung Sdn Bhd	3 X 700 MW	Bituminous and subbituminous coal	Manjung, Perak
Mukah Power Station	Mukah Power Generation Sdn Bhd	2 X 135 MW	Coal	Mukah, Sarawak
Sultan Salahuddin Abdul Aziz Power Station	Tenaga Nasional Bhd	4 X 300 MW, 2 X 500 MW	Coal	Kapar, Selangor
Sejingkat Power Plant	Sejingkat Power Corporation Sdn Bhd	2 X 50 MW, 2 X 55 MW	Subbituminous coal	Sejingkat, Sarawak
Tanjung Bin Power Station	Malakoff Bhd	3 X 748 MW	Coal	Tanjung Bin, Johor

In July 1999, Tenaga Nasional Berhad Janamanjung (TNB), a subsidiary of Tenaga Nasional Berhad awarded Alstom and Peremba a turnkey Engineering, Procurement and Construction (EPC) contract for the construction of the 3 x 700 MW Manjung Steam Power Plant. The power plant is the first green coal-fired power plant in Malaysia and is one of the largest coal-fired projects in Southeast Asia. The power plant also meets the World Bank standards on emissions in Malaysia and has been selected as a benchmark for other power plants in Malaysia by the Department of Environment of Malaysia [2]. The 2,100 MW coal-fired power plant now known as Sultan Azlan Shah Power Station was officially opened on the 30th April 2007 by the Sultan of Perak [3]. Jimah and Mukah Power Stations made the list when both plants commenced operation in 2009.

The power plant used boilers fired by pulverized low-sulphur and low-bitumin coal. In order to minimize pollution, the plant used electrostatic precipitators to reclaim ash from the stacks. The ash is used in the Malaysian cement industry. The Manjung Power Station is an important part of a large program to increase Malaysia's power system capacity to meet rapidly growing demand [4]. Figure 1 shows that at coal-fired power plants, the energy stored in coal is finally converted in electrical energy for continuous use and distribution across a wide geographic area. The coal is pulverized by crushing in the coal mills [5].

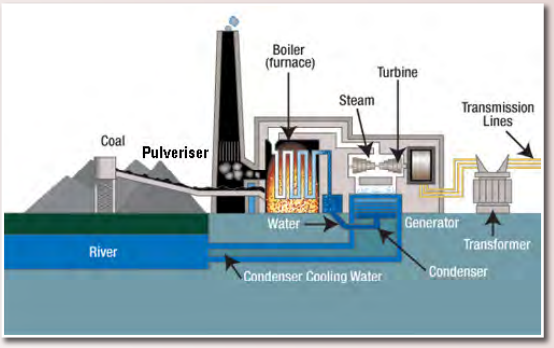

Figure 1. Preview of coal-fired power plants

Conclusion

Coal-fired power plant is one of the many types of power generation plants available nowadays. Having various types of power plants allow the utilization of fuel diversity such that power generation do not only rely on gas.

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[2]Manjung – Malaysia Coal-Fired Steam Power Plant, Alstom, www.power.alstom.com retrieved on 14th June 2012 at 9.14 a.m.

[3]Milestone over 60 Years, Tenaga Nasional Berhad Annual Report, 2010 pg 54.

[4]Power Engineers, 2,100 MW Coal-Fired Power Plant Pipe Routing and Design, www.powereng.com retrieved on 13th June 2012 at 5.33 p.m.

[5]Inspection project at coal-fired power plant in Malaysia, Stork Technical Service, www.stork- gears.com retrieved on 14th June 2012 at 11.21 a.m.

The Workshop on Book Writing Talent Revolution was successfully organized by Samudera Library in collaboration with Human Resource Unit on 18th June 2012 at Pentas Kuliah 2.

BENGKEL REVOLUSI BAKAT PENULISAN BUKU

The main objective of this programme was to introduce the basic knowledge in writing and identified the talents amongst staff to be professional writer in book market. Forty (40) staff attended this workshop from 9.00 am – 5.30 pm lead by Prof. Dato' Dr. Mohd Mansor Salleh, Head of Campus, UniKL MIMET.

Mr. Fauzul Na'im Ishak, Executive Director from PTS Publication was appointed as a trainer. All participants enjoyed his motivational session as he shared his experiences in book industry for twelve years. He also mentioned the best authors who received the best-seller under PTS Publication and it was great to motivate the participants to be book authors in the future. All participants were given many tips to decide the right title of book to be published and three presentation sessions by individual and groups were successfully conducted during workshop.

The workshop ended with certificate given ceremony and the organizer received good respond from participants as they need this workshop for second session.

The word cryptography hails from the Greek word of kryptos which means hidden, secret and graphein which means to write. The definition of cryptography is the art and science of building a type of communication which can't be interpreted or understood by any party except for the valid receiver of the said communication. (Luciano & Prichett 1987)

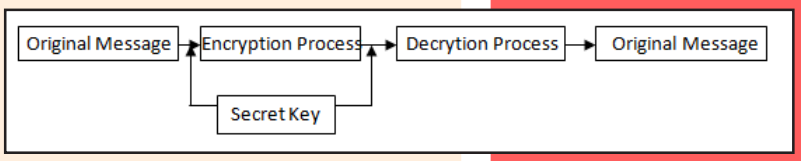
CONCEPT OF CRYPTOGRAPHY

Cryptography in general is a field or technique that protect a data or information from malicious action of some other party with evil intention or illegal act. It is also a form of secrecy service to a matter that cannot be given any other security technique. (Omar & Laiha 2002). The secrecy of data or information will ensure that it will not be stolen or be known by the information intruder as long as the cyrptography system is not yet cracked and depends on its security level which is always updated from time to time in parallel with the diversity of the current application technologies.

Cryptosystem

The purity and security of any information and data sent from a system to another system can be protected by using a process called encryption and decryption, in a system which use a crytography technique which is named as cryptosystem.

Encryption process is process that is done to convert the original message into a hidden message which in another word is a form of security that change the information, images, programs or original data into a hidden messages that is hard to be read by using a set of complex algorithms. While the decryption process is a process that is done to convert back the secret messages to its original form. It can be divided into two parts which are secret key cryptosystem and public key cryptosystem.



Ilustration 1.0 Secret Key Cryptosystem

Secret Key Cryptosystem

In secret key cryptosystem, it is using a secret key in which can only be known by the sender and receiver. The encryption process is done by the sender and the decryption process is done by the receiver using the same key (bisymmetrical). This method has its own problem as the secret key need to be sent first to the receiver before the real message is sent and also the key exchange need a lot of key generation. (Anoop 2007) In the usage of cryptosystem, the sender and receiver need to exchange the secret key before beginning the communication process to send their required messages and the key used need to be shared together between the sender and the receiver.

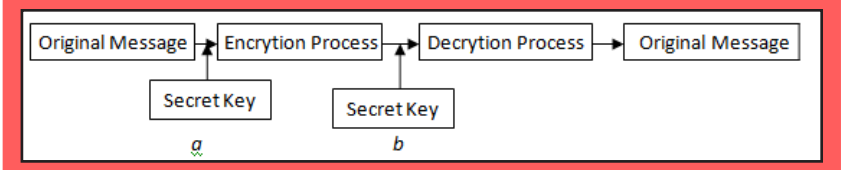
Example of cryptosystem secret key that is used today is DES (Data Encryption Standard), IDEA (International Data Encription Alghorithm) and AES (Advanced Encryption Standard) (Trappe and Washington 2006). Illustration 1.0 shows the cryptosystem key structure. The advantage of this cryptosystem is that it is much faster compared to public key cryptosystem because only one key is used. Higher efficiency is achieved through the execution of this secret key cryptosystem. Thus the problem of time lag while the process of encryption and decryption is taking place could be decreased. However there is some problem and disadvantage associated with this cryptosystem. The sender and the receiver need to first exchange the secret key and the main issue in this cryptosystem is in the finding of an efficient and secure method in the agreement between the sender and the receiver including the secrecy of the key exchange.

Public Key

Public key cryptosystem is introduced by Diffie and Hellman in their journal entitled "New Directions in Cryptography" in the year 1976. (Rosen 1999)
Every public key cryptosystem that is created are based on difference discipline. Various disciplines from the mathematic field play a very important role in the current development of the cryptography. The list of discipline includes the theory and application of mathematics such as in statistics, number theory, group theory, complex analysis, information technology, elliptical curve, logic et cetera. Therefore, it can be said that cryptography is a research about mathematical techniques related to the information security.

The main concept of the public key cryptosystem is the usage of two different key. This means that the key at the encryption and decryption process are different. Encryption key can be used as general. If the receiver would like to receive the hidden message, the encryption key need to be announced and the matching decryption key would be made classified. Anyone can use the encryption key to send the hidden message to the receiver. Therefore the encryption key is known as public key The receiver could decrypt the hidden information because only the receiver possesed the decryption key. (Buchmann 2000) The structure of this cryptosystem could be seen on Illustration 3.0 below.

An example of this cryptosystem is RSA, invented by Rivest, Shamir and Adleman



Ilustration 2.0 Public Key Cryptosystem

from Massachusetts Institute of Technology (MIT), elliptical curve cryptosystem, Diffie-Hellman, ElGamal and Rabin. In this cryptosystem too, even though the public key is known to the public, to get the matching secret key is difficult and this can ensure the security of the public key cryptosystem. (Stalling 1999) The disadvantages of this public key cryptosystem are on the calculation ability of the encryption and decryption process. These processes would be much slower compared to the secret key cryptosystem, which make it less efficient in its key management.

Conclusion

We cannot deny the fact that cryptography field play a very important role in spurring the nation developement in various fields. Cryptosystem which includes public key and secret key give us choices in differentiating information security system whether in the encryption or decryption process. Ongoing researches are being carried out and continuous improvement are done from time to time. This are all to ensure that the security level are always at the top level and suitable to be used on this globalisation era, in parallel with the current technological improvement.

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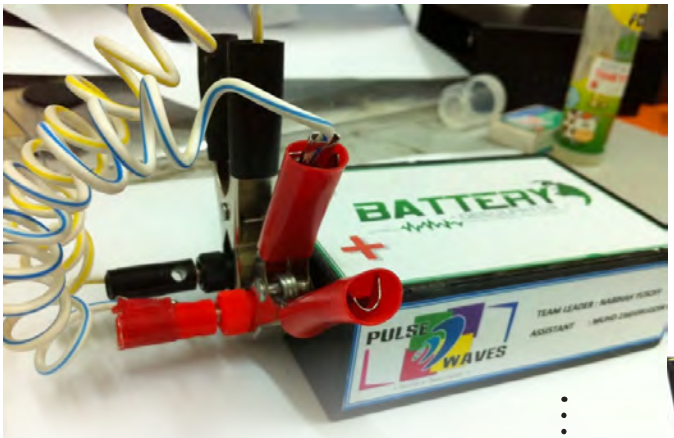
"DESULFATION CIRCUIT"

BOOST WINNING SPIRIT IN 2012

Zakhiruddin Nabihah Mohd Saidi Azhar Othman



"Desulfation Circuit" is a Final Year Project made by two diploma students from Diploma of Technology in Marine Electrical and Electronic, MUHAMMAD ZAKHIRUDDIN BIN ABD. RASHID and NABIHAH BT YUSOFF. They worked under the supervision of Mr. MOHD SAIDI HANAFFI and Mr. AZHAR OTHMAN. The title of the project is DESIGN AND DEVELOPMENT OF 12V LEAD ACID BATTERY DESULFATION CIRCUIT.

The journey started after they won 1st runner up place in Made in UniKL MIMET FYP Competition 2011, held at UniKL MIMET. They were selected to compete in Made in UniKL Final Year Project (FYP) Competition 2012, held at UniKL City Campus, Kuala Lumpur, from 21st to 23rd May 2012, including four other FYP projects from UniKL MIMET. They were short-listed as top 10 best projects and awarded RM 300 and certificate. As one of the top 10 winners, they were selected to compete in Novel Research & Innovation Competition 2012 (NRIC), from 17th to 19th July 2012, held at Dewan Utama Pelajar, Universiti Sains Malaysia (USM) in Penang.

NRIC 2012 was organized by USM in collaboration with the Ministry of Higher Education and sponsored by Motorola Solutions. One of the main objectives of the competition is to give recognition to research and innovation projects done by final year undergraduate and diploma students. There were 7 categories contested; Engineering Technology, Life Science, Health & Medical Science, Social Transformation & Creative Arts, Information Technology & Communication, Fundamental Science, and Community Research and Innovation Competition (CoRIC). About 18 IPTA and IPTS competed in NRIC 2012, including participants from our neighbouring university, Thailand, represented by King Mongkut's University of Technology Thonburi and Princess of Naradhiwas University.

UniKL, competing with 11 projects, were represented by UniKL BMI, UniKL MFI, UniKL MIMET, UniKL MICET, UniKL MSI, UniKL MIIT and UniKL IPROM. These projects are among the best of Final Year Projects selected from Made in UniKL FYP Competition 2012. UniKL won 1 Gold medal, 1 Silver medal, 5 Bronze medals, and 2nd runner-up for CoRIC during the NRIC 2012. Our "Desulfation Circuit" project won Bronze.

The journey didn't end there; they also competed in "Pertandingan Rekacipta & Inovasi MARA ke-10 Tahun 2012", which was held at Kolej Kemahiran Tinggi MARA (KKTM) Beranang, from 8th to 11th October 2012. They competed with about 140 projects from all over Malaysia. The projects came from all MARA learning institutions and invented either by the staffs or students. Our "Desulfation Circuit" project won its second Bronze there. Last but not least, our "Desulfation Circuit" project competed in "Jejak Inovasi Perak 2012" organized by Yayasan Inovasi Malaysia (YIM) in collaboration with Ministry of Science, Technology and Innovation (MOSTI), which was held at UniKL MIMET as the co-organizer at Perak state level, from 17th to 18th October 2012.

This event was held, as this year has been declared as National Innovation Movement and Year of Science 2012 by the Malaysian Government in Budget 2012. "Desulfation Circuit" won the 1st runner up place under "Setempat" category. We wish and hope FYP projects produced in UniKL MIMET will continue to achieve success at various levels and the victory achieved by the "Desulfation Circuit" will increase their motivation towards excellence.

lensa AHOY MIMET

PERKHEMAHAN

silaturrahim

SAMBUTAN

aidilfitri

KAYUHAN
hijau

ayasan
NOVASI
alaysia

g Ideas
Creativity and **Innovation**
for Life

JEJAK
inovasi

Manjung: Yayasan Inovasi Malaysia (YIM) telah berjaya mengenalpasti dan mengiktiraf 5 inovasi akar umbi terbaik dari daerah Manjung Perak baru-baru ini.
Penemuan tersebut adalah menerusi program Jejak Inovasi Daerah Manjung Perak dengan kerjasama Universiti Kuala Lumpur Malaysian institute of Marine Engineering Technology telah menjelajah seluruh kawasan di dalam daerah Manjung dan telah menemui lebih 10 hasil inovasi akar umbi.

Gambar 1 – Majlis Pelancaran - Majlis pelepasan Jejak Inovasi 2012 telah di rasmikan oleh Profesor Madya Zainorin Mohamad Timbalan Dekan UniKL MIMET

Gambar 2 - En.Amir Nordin (duduk) sedang memegang Serkup udang dan bersama pelajar UniKL MIMET dalam sesi jejak inovasi ke akar umbi.

Gambar 3 – Penginovasi bersama hadiah dan wakil YIM serta Dekan dan Timbalan Dekan UniKL MIMET dalam Majlis Penganugerahan Jejak Inovasi Manjung, Dari kiri, **En Othman bin Hashim** dari Manjung, **En.Mustafa bin Othman** dari Pulau Pangkor, **En. Abd Rahman bin Saidin** dari Lekir, **En.Zainal Abidin bin Hj Bakri** Pengarah outreach and community development YIM, **En.Mohd Nafis bin Bodin** dari Ayer Tawar, **Prof Dato Dr.Mohd Mansor bin Salleh** Dekan UniKL MIMET, **Prof Madya Zainorin bin Mohamad** Tim. Dekan UniKL MIMET, **En. Mohd Isa bin Siron** dari Pulau Pangkor dan **Cikgu Roslim bin Zainuddin** dari Manjung.

CONDITION-BASED MONITORING IN PREDICTIVE MAINTENANCE : A BRIEF OVERVIEW

INTRODUCTION

Conservative understanding of maintenance brings to light two most common types of maintenance in practice today, namely preventive and breakdown maintenance. These two types of maintenance have been in use by almost all industries, such as the automotive, civil construction, aviation and to a large extent, the shipbuilding and repair industry. The advent of the Industrial Revolution had certainly created a lucrative industry to maintain the products produced by these industries. Although preventive and breakdown maintenance are widely used in industries, they have their drawbacks. Hence, maintenance engineers are continually devising new and innovative means to maintain their assets and the latest addition is the process called predictive maintenance that uses condition-based monitoring as its application tool.

THE CERTAINTY OF PREDICTING

Engineers seldom succumb to the tendency of assuming everything is right without proper data analysis and justifications. Data collection, analysis and interpretation are therefore the trademark of any typical practicing engineer. Since the Industrial Revolution many maintenance works focus a great deal on planned or preventive, and breakdown maintenance. The choice of either one is obviously based, to a large extent, on cost factors and to a lesser extent on convenience. The choice of embracing preventive maintenance, though seem quite prohibitively costly and illogical would be conservatively accepted if cost benefit analysis carried out over the lifespan of particular equipment shows a declining nature in equipment upkeep cost. This perception may, however, be quite subjective as no exhaustive analysis can really determine the exact reliability and cost benefits of carrying out preventive maintenance. Although prevention has always been regarded as better than cure one can never surely indicate when equipment would actually fail, even after going through a strict regime of preventive maintenance routines.

The choice of embracing breakdown maintenance, however, has more often been attributed to convenience and practicality, rather than cost. Most engineers would admit that breakdown maintenance is far costly than preventive maintenance. By deferring maintenance works until an equipment actually breaks down would initially be regarded as a blessing, as initial low upkeep cost benefits far outweigh any periodic maintenance costs incurred but as the life of that equipment progresses it would gradually dawn on an engineer that the moment the equipment breaks down no amount of prior data analysis can determine the uncertain nature of final repair costs. This uncertainty in determining for breakdown maintenance costs is driving engineers to devise something that is neither preventive, nor corrective but one that is predictable in nature, in terms of cost and practicality. Never before in maintenance circles an engineer can correctly predict or forecast on an eventual equipment failure. This new phenomenon in predictability is causing equipment designers to relook into more proper types of materials chosen for components of equipment. Selection of better and longer lasting materials for components is being given more attention by equipment manufacturers. Manufacturers are rightfully focusing more on material reliability rather than operational reliability as equipment failure that is caused by deteriorating material can now be predicted long before it actually occurs. With the advent of this latest technology equipment manufacturers must now debunk users' perception of equipment unreliability by using improved materials in their equipment, if they really want to remain in business and continue to maintain a credible bottom line or profits.

APPLICATIONS OF CONDITION-BASED MONITORING IN PREDICTIVE MAINTENANCE

In a nutshell, the most common, informative and reliable process in condition monitoring is the vibration measurement and analysis, and to a lesser extent, the oil particles analysis. The former will measure the vibration levels through transducers strategically placed on affected equipment that will indicate nature of problems causing the vibrations through a trending analysis over the equipment's operational period. Trends of a certain nature may be predicted to result in the failure of a particular component in a foreseeable future. An engineer may then initiate procurement process, such as ordering of bearing parts, and planning for expected maintenance work, before the trending figures reach their maximum allowable limits. While in oil and wear particle analysis, a sample of the lubricating oil of the running equipment is tested and the wear particles in it are analyzed. The report reflects the quality status of the lubricant tested, as compared to the profile of a standard lubricant, as well as the actual condition of the internal components of equipment in which it lubricates. A trending analysis of this oil sampling may help an engineer predict when total failure of lubrication will occur, or when maximum allowable wear of internal moving parts is expected to occur before the equipment actually fails, thus enabling him to plan early for the necessary maintenance actions such as equipment shutdown or component ordering. Although this may look like preventive work but the trending nature of the analysis give a better insight into what is actually happening in the equipment and when the equipment should be taken apart, while preventive works do not rely on any trending or analytical work, just an intrusive intervention while equipment is seen to be working well.

CONCLUSION

Predictive maintenance by condition monitoring techniques may help improve long term equipment availability, increase efficiency & industrial safety and reduce overall maintenance cost. Among the two most efficient ways of doing predictive maintenance, namely vibration measurement, and oil and wear particles analysis, the former is by far the most informative and reliable. The common misconception about predictive maintenance being too costly can now be overshadowed by the fact that of all maintenance types, predictive maintenance is by nature the most non-intrusive but providing the most information about the true status of equipment.

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AFDHAL HARUMKAN nama UniKL MIMET di SUKMA XV

Mahasiswa UniKL MIMET, Muhammad Afdhal b Ahmad Sukri , siswa semester kelima dari khusus Diploma Teknologi KejuteraanElektrik dan Elektronik Marin telah mengharumkan nama kampus UniKL MIMET di temasya SUKMA XV di Pahang pda Mac 2012 yang lalu.

Kejohanan		Pencapaian
2011		
1.	Kejohanan Taekwando Terbuka Perak	Emas
2.	Kejohanan Taekwando Terbuka UPSI	Emas
3.	Sukan Perak (SUPER)	Perak
4.	Kejohanan Taekwando Terbuka UIAM	Perak
5.	Kejohanan Taekwando Terbuka UKM	Perak
6.	Kejohanan Taekwando Terbuka Kebangsaan	Gangsa
2012		
1.	Liga Sirkit Perak	Emas
2.	Kejohanan Taekwando Terbuka UIAM	Perak
3.	Kejohanan Antara Kelab Kebangsaan	Gangsa
4.	Kejohanan Taekwando Terbuka Penang	Gangsa
5.	SUKMA XV	Gangsa

Di temasya sukan tersebut, beliau telah mewakili negeri Perak dalam sukan taekwando (Bantamweight, 58-62Kg) dan telah memenagi pingat gansa dalam acara berkenaan. Beliau yang aktif dalam sukan berkenaan dari peringkat sekolah lagi telah menyertai banyak kejohanan dan mencapai pelbagai kejayaan, antaranya memenangi pingat emas di Terbuka Perak dan Terbuka UPSI pada tahun 2011. Berikutan kemenangan tersebut beliau telah dipilih mewakili negeri Perak di SUKMA XV. Diharap beliau dapat meneruskan kecemerlangan dalam sukan taekwando seterusnya menaikkan nama kampus UniKL MIMET. Tahniah!

KARNIVAL JOM JADI USAHAWAN & SAMBUTAN AIDILFITRI MAHASISWA

Persatuan Keusahawanan Siswa dan Jawatankuasa Perwakilan Mahaiswa UniKL MIMET telah berkerjasama menganjurkan Karnival Jom Jadi Usahawan dan Sambutan Aidilfitri Mahasiswa UniL MIMET 2012 pada 6-8 September 2012 bertempat di UniKL MIMET.

Karnival Jom jadi Usahawan telah melibatkan penyertaan lebih 20 buah gerai dan beberapa agensi kerajaan termasuk para mahasiswa UniKL MIMET sendiri. Tujuan karnival

diadakan ialah untuk memupuk semangat keusahawan dikalangan mahsiswan dan memberi peluang kepada peniaga-peniaga kecil tempatan memperkenalkan dan memasarkan produk-produk mereka di pasaran.

Manakala Sambutan Aidilfitri Mahasiswa 2012 diadakan secara besar-besaran untuk meraikan para mahasiswa UniKL MIMET sempena Hari Raya Aidilfitri 1433H. Majlis tersebut telah dihadiri oleh keseluhuran mahasiswa UniKL MIMET. Pelbagai menu istemewa seperti satay dan nasi tomato telah dihidangkan kepda para tetamu. Sambutan kali ini juga dimeriahkan dengan majlis penyerahan sijil kepada kontijen UniKL MIMET di KSSU 2012 oleh Prof. Ahmad Zahir b Hj. Mokhtar.

Kedua-dua program tersebut telah dirasmikan oleh Prof. Ahmad Zahir b Hj. Mokhtar, Timbalan Presiden UniKL (Keusahawan dan hal Ehwal Mahasiswa), diiringi oleh Ketua kampus UniKL MIMET, Prof. Dato. Dr. Mohd Mansor b Salleh dan Dr. Ahmad Hairi b Abu Bakar, Pengarah Urusan Utusan Publications.

Di majlis ini juga, pihak Utusan Publications telah berbesar hati menyerahkan Kiosk buku kepada Persatuan Keusahawanan Siswa UniKL MIMET.

Semoga kedua-dua program yang telah diadakan ini dapat member manafaat kepada mahasiswa dan kampus UniKL MIMET sendiri.

Overview of Laws in Malaysia

Introduction:

Law performs many functions in society and it also impinges on our lives in many and varied ways. From birth till death in succession, it governs our lives. As we know, all of us are required by law to have a birth certificate, marriage certificate and even a death certificate. The system of certificates alone sufficiently illustrates the pervasiveness of the law on our lives. This article covers an overview of the types of Laws in Malaysia.

Definition of Law:

What is LAW? To a layman, law is a general rule of conduct. There are various definitions of Law for our understanding. According to Vohrah B, (2000), Law is like a music. It is differently perceived by different people. We know a piece of good music when we hear it and yet it is so difficult to describe and only the person can feel it. Everyone likes music but in a different way. Law seems straightforward enough but the answer varies greatly depending on who is being asked.

Professor H.Hart in the opening sentence of his book: The Concept of Law, O.U.P 1963, wrote: "few questions concerning human society have been asked with such persistence and answered by serious thinkers in so many diverse strange and even paradoxical ways as the questions".

Another definition is taken from Oxford English Dictionary, where law as the body enacted or customary rules recognized by a community as binding. However from John Salmond in his book titled Jurisprudence, defines law as "the body of principles recognized and applied by the State in the administration of justice". Whereas according to Pheng L. M, (2005), law is defined as "the body of rules which are enforced by the State".

The term of law is defined both by Article 160 (2) of the Federal Constitution 1957 and Item (43 C) of Section 2(1) of the Interpretation and General Clauses Ordinance 1948 to include:

a. The written law
b. Common law in so far it is in operation in the federation or any part thereof, and
c. Any custom or usage having the force of law in the federal or in any part thereof.

Classification of Law:

Law has been classified in a variety of ways. One of the more commonly adopted ways is to classify law into three broad divisions:

a. Public Law
b. International Law
c. Private Law

Public law:

Public Law is the law which governs the relationship between individuals and the state. It is divided into two categories such as Constitutional Law and Criminal Law. The Constitutional Law lays down the rights of individuals in the states such as supremacy of Parliaments and rights of citizen. It also covers areas dealing with State and Federal powers. Codifies the various offences committed by individuals against the state. However, for the Criminal Law, it aims to punish criminals and suppress crime. It imposes on individuals the obligation not to commit crimes because crime is wrong against the State for which punishment is inflicted by the State. The proceedings are initiated by the Public Prosecutor's Office. Examples of crimes are murder, cheating, criminal breath of trust, forgery, causing grievous hurt, theft, robbery and counterfeiting.

International Law

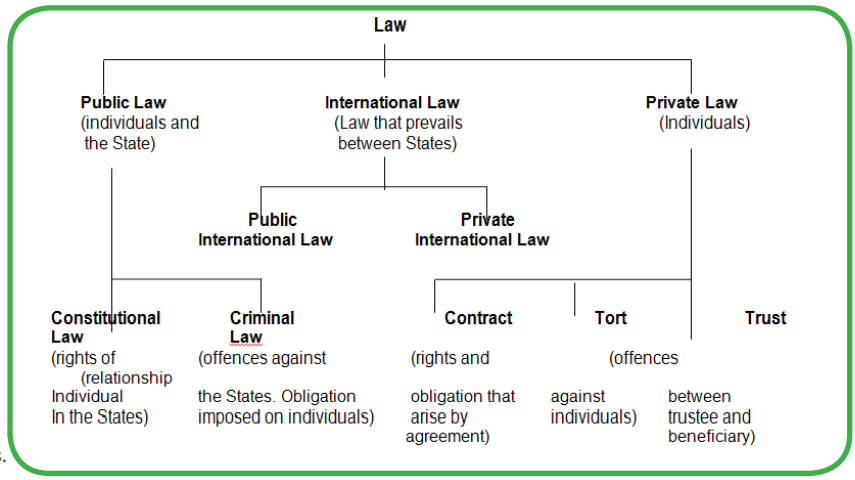
International law is the body of law that is composed, for its greater part, of the principles and rules of conduct. The States are obligated to observe their conduct in their relations with each other. It is divided into two categories, namely the Public International Law and Private International Law.

Public International Law is the law that prevails between States. However the Private International Law or known as "conflict of law" is part of the municipal law. As the result of which in every country there will be a different version of law. It consists of the rules which guide a judge when the laws of more than one county affect the case.

Private Law

The Private Law or Civil Law is concerned with matters that affect the rights and duties of individuals amongst themselves. It is intended to give compensation to person injured, to enable property to be recovered from wrongdoers and to enforce obligations (contracts and trust).

Figure 1 below shows the classification of law:



Sources of Malaysian Law.

The sources of Malaysian Law is the legal rules that make up the law in Malaysia. It is divided into two categories such as:

a. Written Law
b. Unwritten Law

The Written Law:

It is the most important source of law. It refers to that portion of Malaysian law that includes the following:

The Federal and State Constitutions. The Federal Constitution is the supreme legislation of the land. There are also Constitutions of the thirteen States that form the State Legislation.

Legislation as enacted by Parliament and the States Assemblies, such as Acts of Parliament, Ordinances, Enactments etc).

Subsidiary legislation made by persons or bodies under the powers conferred on them by Acts of Parliaments or States Assemblies such as Rules and Regulations, By-Laws, Guidelines etc.

The Unwritten Law:

It is simply the portion of Malaysian law that is not written, i.e law is not being enacted by Parliament or the State Assemblies and not found in the written Federal and State Constitutions. The unwritten law is found in cases decided by the courts, local customs and comprises the following:

Principles of English law applicable to local circumstances.

Judicial decisions of the superior courts, i.e the High Courts, Courts of Appeal and the Federal Courts.

Customs of the local inhabits which have been accepted as law by the courts.

Conclusion:

The aim of law is to attain justice in society. Justice is an abstract idea of right and wrong, fairness and equality. Therefore the aim of a given law is to encourage the doing of what is right or just in a particular set of circumstances. It will be beneficial to all of us to know about Malaysian Law as the guidelines and references in our day life activities. Law is a unique and contemporary discipline with applications in every area of one's life, including those who are engaged in business. It is a dynamic discipline, always changing to adjust to societal transformations yet also striving to remain constant enough in order not to disrupt the legal order. Therefore, the study of law can be difficult but very rewarding.

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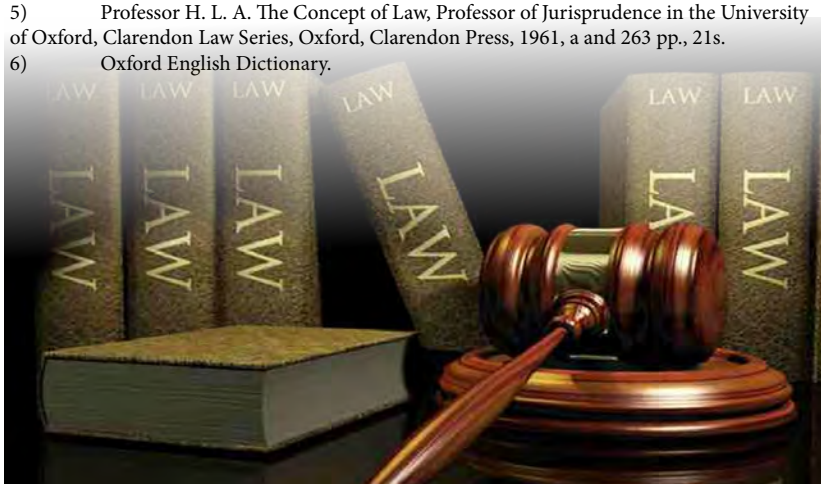

LENSA AHOY

Perkhemahan silaturrahim anjuran kelab kakitangan MIMET. 14 Julai 2012

Kelahiran Cahaya Mata

Sehingga bulan September 2012, beberapa orang staf telah mendapat cahaya mata baru sebagai penyeri kehidupan mereka. Mereka adalah seperti berikut:

No	Nama	Anak	Tarikh Kelahiran
1	Ahmad Zawawi Jamaluddin	Lelaki	13.03.2012
2	Nur Haiyu Jannah	Perempuan	07.07.2012
3	Shukri Abdul	Lelaki	12.07.2012
4	Ismail Zainol	Lelaki	17.07.2012
5	Norazizah Che Mat	Lelaki	24.07.2012
6	Norfadhlina Khalid	Lelaki	31.07.2012
7	Sharadham / Noor Fadzlinda	Perempuan	04.08.2012
8	Syajaratunnur Yaakub	Perempuan	20.08.2012
9	Azzahari Abd Hamid	Perempuan	05.09.2012
10	Mohd Khairruddin Abd Karim	Lelaki	24.09.2012
11	Abd Aziz Mohd Yusof	Lelaki	19.10.2012
12	Ezreen Rahayu Abdul Rani	Perempuan	24.10.2012

UniKL MIMET ingin mengambil kesempatan untuk mengucapkan tahniah ke atas staf yang baru mendirikan rumah tangga serta kepada staf yang baru mendapat cahaya mata baru. Diharap dengan anugerah ini maka staf tersebut akan dapat meningkatkan lagi sumbangannya terhadap kejayaan UniKL serta UniKL MIMET khususnya.

Sambutan Aidil Fitri 2012

Sambutan Aidil Fitri 2012 telah diadakan pada 14hb September 2012. Sambutan Aidil Fitri kali ini telah diadakan pada waktu petang iaitu selepas solat Jumaat. Ramai tetamu jemputan telah hadir dan sambutan kali ini sangat meriah. Pelbagai menu menarik telah disediakan.

Introduction to Nanomaterials -

"THINK BIG WITH SMALL THING"

In the last decades, nanomaterials have attracted a great attention due to the many technologically interesting properties. The word "nano" of course, means a billionth, or $10^{\square 9}$. Nanomaterials are not new undiscovered materials or new elements in periodic table. In simpler phrase: they are normal materials but very small in size (from 5 nm – 100 nm), that their properties are no longer the same as when they are big [1, 2].

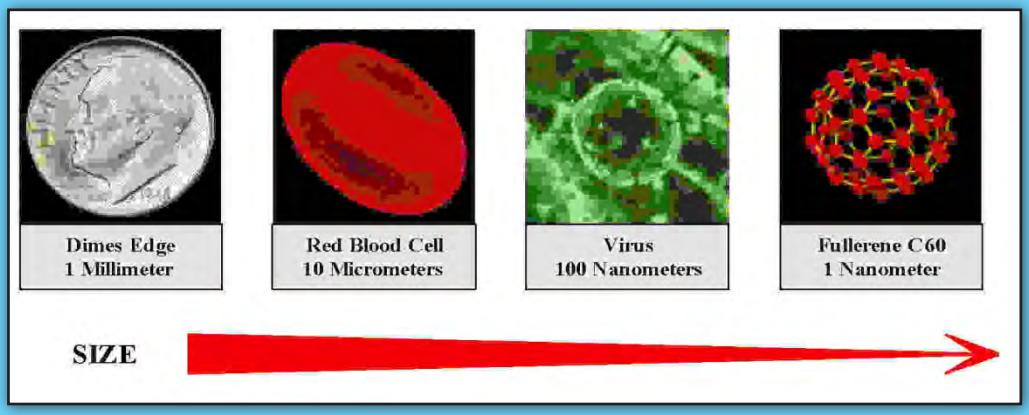

Figure 1 Scale of nano; Adapted from: The Scale of things
(Source: Office of Basic Energy Sciences, Office of Science, U.S. Department of Energy)

Nanomaterials can be classified in several ways, based on

(1) Their origin - broadly classified as "Natural Nanomaterials" and "Artificial Nanomaterials".

(2) Dimension – classification of nanomaterials with regard to different parameters (0D, 1D, 2D and 3D).

(3) Composition – classified as Single-phase solids, Multi-phase solids, and Multi-phase system.

There are two types of nanomaterials which are nanopowder and nanotube. Nanopowder is building block (less < 100 nm in diameter) for more complex nanostructure while nanotube is tiny strips of graphite sheet rolled into tubes a few nanometers in diameter and up to hundreds of micrometers length. Nanotube is the stronger materials.

Nanotechnology is one of the most active research areas that encompass a number of disciplines such as electronics, bio-mechanics and coatings. Nanotechnology can also be applied in manufacturing and industry, the use of natural resources by using nanobots as cleaning machines that break down pollutants as well as a treatment for cancer in medical [3].

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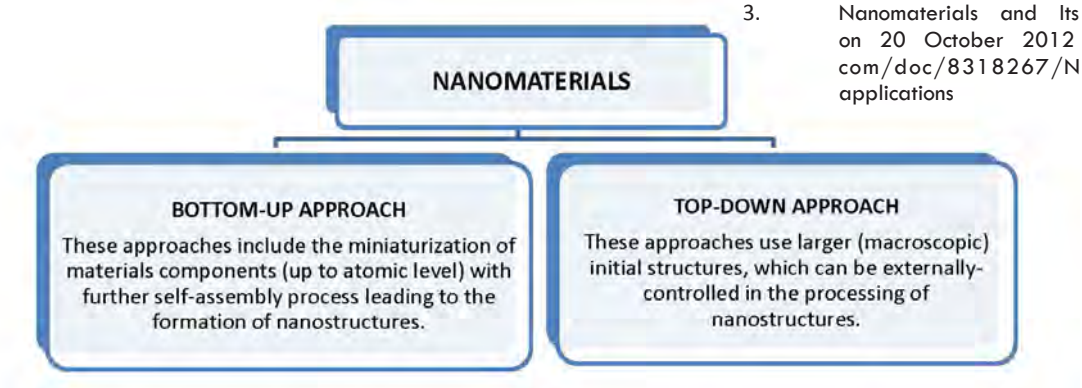

Figure 2 Types of approaches to synthesis of nanomaterials

http://cahayamukmin.blogspot.com/2009/09/nasihat-imam-al-ghazali.htm

ILMU & NASIHAT

Wahai anak! Naslhat itu mudah, yang sulit adalah menerimanya; karena terasa pahit oleh hawa nafsu yang menyukai segala yang terlarang. Terutama dikalangan penuntut ilmu yang membuang-buang waktu dalam mencari kebesaran diri dan kemegahan duniawi. Ia mengira didalam ilmu yang tak bersari itulah terkandung keselamatan dan kebahagiaan, dan ia menyangka tak perlu beramal. Inilah kepercayaan filsul-filsuf.

Ia tidak tahu bahwa ketika ada pada seseorang ilmu, maka ada yang memberatkan, seperti disabdakan Rasulallah saw: "Orang yang berat menanggung siksa di hari kiamat ialah orang yang berilmu namun tidak mendapat manfaat dari ilmunya itu."

ILMU & AMAL

Wahai anak! Janganlah engkau hidup dengan kemiskinan amal dan kehilangan kemauan kerja. Yakinlah bahwa ilmu tanpa amal semata-mata tidak akan menyelamatkan orang. Jika disuatu medan pertempuran ada seorang yang gagah berani dengan persenjataan lengkap dihadapkan dengan seekor singa yang galak, dapatkah senjatanya melindungi dari bahaya, jika tidak diangkat, dipukulkan dan ditikamkan? Tentu saja tidak akan menolong, kecuali diangkat, dipukulkan dan ditikamkan. Demikian pula jika seseorang membaca dan mempelajari seratus ribu masalah ilmiah, jika tidak diamalkan maka tidaklah akan mendatangkan faedah.

ILMU & MATERIAL

Wahai anak! Berapa malam engkau berjaga guna mengulang-ulang ilmu, membaca buku, dan engkau haramkan tidur atas dirimu. Aku tak tahu, apa yang menjadi pendorongmu. Jika yang menjadi pendorongmu adalah kehendak mencari materi dan kesenangan dunia atau mengejar pangkat atau mencari kelebihan atas kawansemata, maka malanglah engkau. Namun jika yang mendorongmu adalah keinginan untuk menghidupkan syariat Rasulallah saw dan menyucikan budi pekertimu serta menundukkan nafsu yang tiada henti mengajak kepada kejahatan, maka mujurlah engkau. Benar sekali kata seorang penyair, "Biarpun kantuk menyiksa mata, Akan percuma semata-mata jika tak karena Allah semata".

Wahai anak! Hiduplah sebagaimana maumu, namun **ingat bahwasanya engkau akan mati.** Dan cintailah siapa yang engkau sukai, **namun ingat! engkau akan berpisah dengannya.** Dan berbuatlah seperti yang engkau kehendaki, namun **ingat! engkau pasti akan menerima balasannya nanti.**

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  KPT(JPS)/600-07/38/ Jld. X (21), (A 8280)
- **Ship Design**
  KPT(JPS)/600-07/38/ (156), JPT/BPP(U)1000-801/38/Jld.3(14), (A 6007), KR11788
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