



# TEKNIKA

*Media Informasi dan Komunikasi Bidang Rekayasa dan Tata Niaga*

**Tamzil Radin, Taufikurrahman** Penggunaan Proses Carburizing Untuk Meningkatkan Prosentase Karbon Pada Baja Karbon Rendah.

**Ade Silvia Handayani** Sistem Monitoring Ruangan Berbasis Kamera IP Dalam Pengembangan Teknologi Wifi.

**Eka Susanti, Masayu Anisafi** Balance Amplifier Dengan Menggunakan Drive Op-Amp

**Aryanti, Ikhtison Mekongga** Pemanfaatan Kabel Transmisi PLN Sebagai Media Komunikasi Suara Dengan Telepon Rumah.

**Ibnu Ziad** Jaringan Saraf Tiruan Untuk Mendeteksi Kebutuhan Energi Listrik.

**Aisyah Suci Ningsih** Pengolahan Air Asam Tambang Dengan Abu Terbang: (Suatu Tinjauan).

**Elina Margaretty** Waktu Pencampuran Dan Konsumsi Energi Fluida Non Newtonian Dalam Tangki Berpengaduk.

**Aida Syarif, Sofiah** Proses Pembuatan Briket Biocoal Dari Batubara Lignit Dan Cangkang Sawit Dengan Metode UBC.

**Jaksen M. Amin** Penentuan Koefisien Partisi Poli Etilen Glikol (Peg)-Fosfat Sebagai Media Dua Fasa Cair Pada Produksi Biosurfaktan oleh Bacillus Sp. Bmn 14.

**Periansya** Pentingnya Pengetahuan Atas Jenis Surat Berharga Bagi Orang Awam.

**M. Syahirman Yusi** Bauran Pemasaran Dan Kepuasan Konsumen (Studi Empiris Pada Pembaca Surat Kabar Sumatera Ekspres Di Kota Palembang).

**Yusnizal Firdaus** Analisis Pengaruh Faktor Eksternal Dan Internal Terhadap Keputusan Mahasiswa Memilih Studi di Perguruan Tinggi (Studi Pada Mahasiswa Politeknik Negeri Sriwijaya).

**Alan Novi Tomponu** Sistem Kendali Peralatan Listrik Via Jaringan Telepon.

**Azwardi** Pengendalian Sistem Multimedia Pada PC Berbasis Microcontroler AT89C51 menggunakan Remote Infra Merah.

**Ridwan Effendi** Mengatasi Ancaman Virus Komputer Secara Manajemen.

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Penerbitan TEKNIKA Volume XXIII, No.1, Desember 2008 menampilkan beberapa artikel penelitian dan karya ilmiah dari dosen Politeknik Negeri Sriwijaya .

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# **PENGGUNAAN PROSES CARBURIZING UNTUK MENAIKKAN PROSENTASE KARBON PADA BAJA KARBON RENDAH**

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## **ABSTRACT**

*The mechanical properties of steel is affected by carbon percentage in alloy, the carbon quantity can be change a percentage by carburizing, carburizing process is by adding carbon unssure in the surface portion. The required temperature for carburizing process is about 950 C with a waiting time about 2 hours, the testing is performed including composition test, micro structure and surface hardness test. After process carburizing it occurs the increasing of carbon quantity on the surface of low carbon steel from 0.137% to 0.252 %. The highest numberof vickers hardness is 372.08 HV, caused by faster cooling through wate. Low carbon steel microstructure has small seeds of perlite and ferrite. Having performed carburization occuring atoms combination so that causing bigger perlite and ferrite seeds. A sudden cooling process is able to from martensite on the steel surface. This case causes the steel surface becoming hard and breakable.*

**Keywords: Carburizing, Percentage, Carbon and Steel.**

# **SISTEM MONITORING RUANGAN BERBASIS KAMERA IP DALAM PENGEMBANGAN TEKNOLOGI WIFI**

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## **ABSTRACT**

*The technology growth make immeasurable of peripheral base on Internet Protocol or IP using more lately. The detection camera peripheral was used connect to the analogous video cable; nowadays have the migration to become to base on IP and base network. IP Address is one of all important components in network internet. All networks IP must be used IP address to network arrangement. Communication tool to another appliances almost using parameter IP address. On monitoring system, camera base on IP require computer and server also the other peripheral to develop it. IP used is local IP address, because this IP is better in security systems. But, if there are have camera IP to access from outside network WIFI, should be changing as IP address. Monitoring system being based on camera server at room, that is giving feed back in the video (video streaming) and client can be monitoring. And also server can record every movement (motion) and will activate alarm when movement which not happened as used to be. The room monitoring system is consisted of Client and Server, as an application to provide inwrought security solution to conduct capturing, analyzing, recording, and monitoring the security camera into a PC.*

**Keywords: IP Camera, WIFI, TCP/IP, Video Caputre, Video Streaming**

## ***BALANCE AMPLIFIER DENGAN MENGGUNAKAN DRIVE OP-AMP***

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### **ABSTRACT**

*Conventional amplifier usually uses ground power supply as a signal reference. So it caused the conventional amplifier has IHM noise (Interval Hum Noise Modulation). The system of amplifier must be really balance from the input to output in order to minimalize the noise. This research make a balance amplifier class AB push-pull with power rms 120Watt and frequency bandwidth between 50Hz to 10kHz. This amplifier use complementary pair as a current-driver. The Experimental result show that the balanced amplifier has power output only 110Watt, 22Volt operating voltage and have a bandwidth from 30Hz until 15KHz, gain 13,5dB. Beside that the Experimental result, balanced power amplifier also has very small IHM compared with unbalanced power amplifier.*

***Keywords: Balance amplifier, Push-pull, Class AB, op-amp.***

# PEMANFAATAN KABEL TRANSMISI PLN SEBAGAI MEDIA KOMUNIKASI SUARA DENGAN TELEPON RUMAH

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## ABSTRACT

*Transmission cable PLN with frequency 50 Hz and voltage 220 V ac can be exploited as the media of voice communication. Utilization of transmission cable PLN as the media of voice communication with telephone that is with filter frequency 50 Hz that pass by transmission cable is referred. Its analogy can be generated a frequency in cable PLN for sent to other tool that is by design 1 transmitter device and 1 reception device. Frequency Generating carry is produced from process of AM modulation, at frequency transmitter carry equal to telephone set number. If frequencies carry that already in filter then remain information signal (voice, Music) from that invited talking to desired. At receiver happened AM demodulation that is dissociating signal of voice information from frequency carry*

**Keywords:** *Communication, Media Transmisi, Frequency, Transmission and Receiver*

## **WAKTU PENCAMPURAN DAN KONSUMSI ENERGI FLUIDA NON NEWTONIAN DALAM TANGKI BERPENGADUK**

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### **ABSTRACT**

*The research is conducted to determine mixing time and energy consume on mixing and agitation non Newtonian fluid in turbine stirred tank. HFS (High Fructose Syrup) + 0,1% Carboxymethyl cellulose (CMC) and HFS 70<sup>0</sup>brix + 0,5% CMC are used as Non Newtonian fluid. The turbine stirred tank is made of flexiglass which has the shape cylendric at inner layer and cube on outer layer. Based on the experiment, it is known that mixing time energy consume are influenced by flow pattern and fluid rheology characteristic. Higher CMC concentration or thicker fluid viscosity will impact to the reduction of fluid movement velocity so mixing time will be longer and energy consume will be higher. Colour mixing time in the fluid HFS 70 brix + 0,5% CMC (Non Newtonian) is longer than it of two other fluids HFS 70<sup>0</sup>brix + 0,1% CMC (Non Newtonian) and HFS 70<sup>0</sup>brix (Newtonian). Non Newtonian fluid (HFS 70<sup>0</sup>brix + 0,5% CMC) is thicker that has complexity rheology characteristics and energy consumer is higher than Newtonian fluid. The agitation of fluid HFS 70<sup>0</sup>brix + 0,1% CMC and fluid HFS 70<sup>0</sup>brix + 0,5% CMC need higher energy consume than fluid HFS 70<sup>0</sup>brix.*

***Keywords: HFS, CMC, Non Newtonian, Turbine, Stirred tank***

**PROSES PEMBUATAN BRIKET BIOCOAL DARI BATUBARA LIGNIT  
DAN CANGKANG SAWIT DENGAN METODE UBC**

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**ABSTRACT**

*Biocoal briquette which made by the mixture of lignite with shell of palm (solid waste CPO). The lignite as raw material in made of briquette the first experience reduce moisture content with UBC teknologi. The UBC teknologi is process reduce moisture content of lignite by heating at low pressure and temperature and so added crude oil which obtain for the stabilizer moisture content reabsorbsi, the methode was used experiment trough variated the total crude oil, temperature and time heated of UBC. Process and composition mixture from lignite and shell of palm. The result of reseach if characteristic of briquette dependent from condition of UBC process and composition raw material. The last result is quality of briquette at condition proportion A and composition 3:1 the best quality.*

**Keywords:** *Briquette, Biocoal, Lignite, Palm Shell, UBC (Upgrading Brown Coal)*

**PENENTUAN KOEFISIEN PARTISI POLI ETILEN GLIKOL (PEG)–FOSFAT SEBAGAI  
MEDIA DUA FASA CAIR PADA PRODUKSI BIOSURFAKTAN  
OLEH *Bacillus sp.* BMN 14**

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**ABSTRACT**

*The main purpose of this research is to determine the ratio of Poly ethilen glicol (PEG)–phosphat and partition coeficient of aquas two phase media for producing biosurfactant by bacillus sp. BMN14 isolate. The road of research consist of regeneration and propagation of isolate, to determine the mixing of PEG-phosphat until two layers formed, and to determine the partition coeficient where the result of biosurfactant on top and bottom layer as reference. In aseptic condition, the isolation, propagation and cultivation used Cooper-Sen media and glucose 4% (b/v) as substrat was done in work volume 50 ml, and to be incubated in water bath shaker at 37 °C and agitated at 140 rpm. Especially on cultivation, beside above media used, it is also added PEG-phosphat media in order to form two phases system. All of experiments is conducted twice and and to be observed duplo system. From the result of research, it is found that there are 30 items of PEG-phosphat ratio that can form two phase system.*

***Keywords: Two phases cultivation, Biosurfactant, Bacillus sp. BMN14, PEG-phosphat***

# **PENTINGNYA PENGETAHUAN ATAS JENIS SURAT BERHARGA BAGI ORANG AWAM**

## **Periansya**

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### **ABSTRACT**

*Obligations can benefit modern societies to succeed in their business. An obligation is defined as non cash means of payment which is recognized by the state and can be treated like other means of payment. Obligations can minimize business threats. Obligations are published by the authorized publishers to compensate the payment for an achievement. Practically, obligations comprise of cheque, giro, commercial paper, and share. All of these advantage business.*

**Keywords:** *Cheque, Giro, Comercial paper*

**BAURAN PEMASARAN DAN KEPUASAN KONSUMEN  
(Studi Empiris pada Pembaca Surat Kabar Sumatera Ekspres di Kota Palembang)**

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**ABSTRACT**

*This research aims at finding out how far the costumers loyalty are influenced by marketing mix namely product, price, distribution or place and promotion. The research used survey method with collecting primary data through questioners. Based on the data analysis which is ued by correlation analysis and regression analysis shows that there was positive correlation between the cutomer's loyalty and poduct (0,83), price (0,64), distribution (0,071) and promotion (0,68). However, the highest correlation is between the customer's loyalty and product (0,83). Furthermore, by using the regression analysis can be found that the customer's loyalty was more influenced by product with coefficient 0, 64.*

**Keywords:** *news, customer loyalty, marketing mix*

**ANALISIS PENGARUH FAKTOR EKSTERNAL DAN INTERNAL TERHADAP  
KEPUTUSAN MAHASISWA MEMILIH STUDI DI PERGURUAN TINGGI  
(Studi Pada Mahasiswa Politeknik Negeri Sriwijaya)**

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**ABSTRACT**

*This research was conducted at the Politeknik Negeri Sriwijaya, which aimed to identify the external factors (Product, Promotion, Location, Culture, Social Class, Reference Group, Family, Personal Traits, Process, and Physical Condition) and internal factors (Motivation, Perception, and Learning Attitude). Simultaneously and partially the students towards their taken decision entering Politeknik. This study also always and identify the dominant factors of the students in choosing Politeknik for study. This research using sample 97 students was taken from 3.465 students as population, the data collected was analyzed by linear Regression, and showing that the external factor, and external factor were simultaneously influences student decision in choosing Politeknik for study, the internal factor was partially influencing student ini choosing Politeknik, while the external factor was not influence the student in choosing Politeknik for study. From the data analyzed reveals that the price is the variable dominant for students in choosing Politeknik for their study.*

**Keywords: External factor, Internal factors and Decision**

# **SISTEM KENDALI PERALATAN LISTRIK VIA JARINGAN TELEPON**

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## **ABSTRACT**

*The purpose of this research is to get the circuit design included the component data which would be required for the electrical component control assembling which is especially conducted in any household by using such far distance control system via phone network. Making equipment circuit, doing some measurement and trial, analyzing and finding some optimal equipment condition. The working system of this equipment control process via phone network is using phone in any household. This equipment received the outside receiver signal which is here DTMF signal then it was going to be processed by IC MT8870. If any case the telephone signal ring get in signal detector. Then those signals would be processed by microcontroller to activate the hook control. The hook control would connect to operator voice which had been stored in IC recorder ISD 1420 and microcontroller would give an order to display it in LCD. Microcontroller then required inputting the password. The password input would be detected by DTMF. If the password input was valid then all we have to do is to dial 1 to 9 number (in transmitter telephone), with the button combination \* to activate and # inactivate it.*

**Keywords:** *Microcontroller, Ring detektor, DTMF, Telephone*

**PENGENDALIAN SISTEM MULTIMEDIA PADA PC BERBASIS MICROCONTROLLER AT89C51  
MENGUNAKAN REMOTE INFRA MERAH**

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**ABSTRACT**

*Controlling system of long distance base on infra red to represent common features in various electronic appliance. With this system controlling any electronic appliance can be conducted within range of broader region. At research will be designed any controlling of long distance base on infra red at software of multimedia PC. These systems are consisted of software and hardware. Software to be develop is transmitter base on infra red therewith its receiver. Each knob at transmitter has been designed to have the code having the character of unique. Fill this code is kept in microcontroller AT89C51. Software to be developed is program of microcontroller AT89C51. Together software of Winlirc and IR Assistant, hardware and software wich have been develop by a configuration become a controlling system at software of multimedia computer. With this system is expected all consumer PC can easier control the PC from long distance. As for which can be controlled with this equipments for example: Win Amp, Power DVD, TV Tuner, Radio Tuner, and Power Point Show. In fact a lot of software which can be controlled from long distance with these equipments depend the wearer PC need.*

**Keywords: Microcontroller, Multimedia, Controlling and Computer**

# MENGATASI ANCAMAN VIRUS KOMPUTER SECARA MANAJEMEN

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## **ABSTRACT**

*Computer virus is an ordinary computer program made to infect or change the program content or file even to damage it. Along with the fast innovation of computer as a tool in any life aspect, computer virus is a threat for computer system security in which it is able to cause some damages on the attacked computer systems. At present there are many anti viruses used to put down some viruses. By using anti-viruses, it is clearly hoped that the damages on the computer systems can be minimalized. If the anti-virus for the virus is not available, the data and the program will surely be damaged. Before the computer virus attacks on the computer systems, and the data or the programs in the computer are damaged too, it is better to make such a kind of prevention. To prevent the computer from viruses, the data processing system management is the solution.*

***Keywords: Computer virus, System management, Anti-virus***

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### B. FORMAT NASKAH ARTIKEL HASIL PENELITIAN

- **Judul** di tulis secara ringkas dan jelas dalam bentuk (Huruf Kapital)
- **Nama penulis** jika lebih dari satu orang diurutkan berdasarkan penulis utama selanjutnya nama anggota (font 12). Tempat, nama instansi, telp, fax, e-mail ditulis lengkap (font 10)
- **Abstrak** tidak melebihi 200 kata.
- **Kata kunci** maksimum 5 kata dan dicetak tebal dan istilah asing dicetak miring
- **Pendahuluan** berisi latar belakang, perumusan masalah, tujuan dan manfaat penelitian serta landasan teori yang mendukung. Isi dalam pendahuluan tidak perlu dibuat per-sub atau per-pointer.
- **Bahan dan Metode** meliputi bahan, peralatan dan metode penelitian.
- **Hasil dan Pembahasan**
- **Kesimpulan**

- **Saran** (bila ada)
- **Daftar Pustaka** dicantumkan hanya yang dikutip dan ditulis menurut abjad dan disesuaikan dengan rincian nama penulis, tahun, judul buku, penyunting (jika ada), kota penerbit, penerbit
- **Lampiran** (bila ada)

### C. FORMAT ARTIKEL KAJIAN/ULASAN ILMIAH

- **Judul** ditulis secara ringkas dan jelas dalam bentuk (Huruf Kapital).
- **Nama Penulis** jika lebih dari satu orang diurutkan berdasarkan penulis utama selanjutnya nama anggota (font 12). Tempat dan nama instansi, tel,fax, dan e-mail ditulis lengkap (font 10)
- **Abstrak** tidak melebihi 200 kata.
- **Kata Kunci** maksimum 5 kata dan dicetak tebal dan istilah asing dicetak miring
- **Pendahuluan** berisi latar belakang, perumusan masalah, tujuan penulisan serta teori yang mendukung. Isi dalam pendahuluan tidak perlu dibuat per-sub atau per-pointer.
- **Pustaka/Referensi** dari jurnal atau literature yang dicantumkan dalam daftar pustaka.
- **Pembahasan** merupakan **ISI UTAMA** yang menjelaskan jawaban atas permasalahan dan tujuan serta pendapat penulis yang diperkuat dengan data sekunder yang mengacu pada beberapa **Tinjauan**.
- **Kesimpulan**
- **Daftar Pustaka** dicantumkan hanya yang dikutip menurut abjad dan disesuaikan dengan rincian nama penulis, tahun, judul buku (tulisan), penyunting (bila ada), kota penerbit, penerbit.
- **Lampiran** (bila ada)

## PENULISAN ABSTRAK

### Abstrak dalam Bahasa Indonesia

Abstrak berisi pernyataan ringkas dan padat tentang ide-ide yang paling penting. Penulisan abstrak harus mencakup hal-hal sebagai berikut:

1. Tujuan
2. Permasalahan
3. Metodologi
4. Hasil
5. Kesimpulan dan Saran

Abstrak ditulis sampai dengan 200 kata dalam satu paragraf, tidak ada pengacuan terhadap pustaka, gambar dan rumus-rumus. Jumlah kata kunci sebanyak 3-5 kata.

### Abstract in English

Your abstract should include the following main points:

1. Purpose
2. Problem/Research Questions
3. Methodology
4. Result
5. Conclusion and Suggestion

Typed in single space, one paragraph, and must not exceed 200 words. Keyword: 3-5 words.

Contoh penulisan abstrak:

### ABSTRACT

*This study evaluates the internal control of ticket selling and cash receipt system at PT. Sri Varia Wisata Palembang. It is attempted to answer the question whether the company has applied an effective internal control on its ticket selling and cash receipt system. The data were collected through the use of questionnaire, interviews and observation. They were analyzed by using theoretical frameworks developed by Indonesian Accountant Association (2001). Arrens and Loebbecke (1996, 1999), Mulyadi and Puradiredja (1999). The result shows that there was a unit, which did an overlapping job, doing both selling and receiving cash. Furthermore, there was no internal auditor to do the job of a financial report controller. Based on the finding above, the writer suggests that the work of sales unit must be separated from the cash unit. The company should employ an internal auditor to control its financial report.*

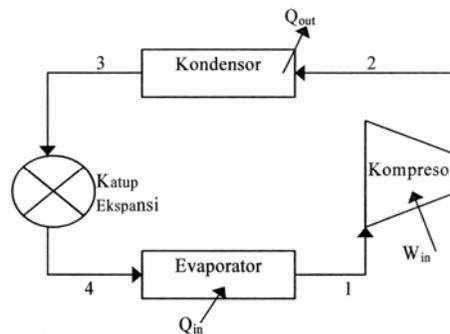
Contoh penulisan tabel:

**Tabel 1.** Produksi minyak goreng sawit di Indonesia (2002-2006)

TAHUN	TON
2002	1.637.786
2003	1.834.320
2004	2.054.438
2005	2.300.971
2006	2.577.088

Sumber: BPS Sumsel 2007

Contoh penulisan gambar:



**Gambar 1.** Instalasi mesin pendingin kompresi uap (Stocker, W., 1995)

Untuk sumber gambar dan tabel harus dicantumkan apabila bukan merupakan hasil karya penulis sendiri.

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# TEKNIKA

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