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ENGLISH TITLES:

ENGINEERING

The Strength Of Stainless Steel Built – Up I- Section Columns

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Abstract

The findings of an investigation into the structural performance of stainless steel built-up I-section columms are presented. The stainless steel used in this study is a modified type 409 stainless steel designated 3CR12, a corrosion- resisting steel. Due to the gradual yielding properties of Type 3CR12, corrosion- resisting steel, column strength is best predicted by using the tangent modulus approach. The influence of residual stresses on column strength can be included in the tangent modulus formulation by using the mechanical properties of stub column tests instead of the mechanical properties of the virgin plates.

Key words: stainless steel, Column strength, Mechanical properties, Tangent modulus.

Design and Simulation of PD and PI Fuzzy Controllers for a Cruise Control System

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Abstract

The classical control theory, which relies on the mathematical model of the underlying system, has been successfully applied to the control of a large variety of simple linear and time-invarying processes. However, it has not been widely used with complicated, nonlinear, time varying systems or with processes suffering from noisy measurements. The main idea of fuzzy control is to build a model of an expert operator who is capable of controlling the plant without thinking of a mathematical model. This paper is meant to give a short introduction to fuzzy set theory, fuzzy logic and the application of fuzzy logic in practice. It describes the design and simulation of PI and PD fuzzy controllers to a cruise system, which gains increasing interest in research aiming to partial or full automatic driver assistance. Comparison of the application of conventional PID controller and a fuzzy controller to the studied control system is presented. All the developed programs of simulation are written using Matlab code and C/C++ code. Simulation is also carried out by making use of the available CAD packages.

Keywords: Fuzzy control, Simulation, cruise control, and control system.

Survey of pesticides used by farmers of Qat trees in Dhale' and Yafe' and it's adverse effect.

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Abstract

A survey and questionnaire consisting of interviews with 100 Qat-farmers who used and applied different kinds of pesticides in Dhale' and Yafe' districts, where Qat is cultivated widely. Seven of the pesticides used in Yemen are either omitted or banned by the World Health Organization. Survey report shows six pesticides used most frequently by Qat farmers in the two districts. The result obtained revealed the selection of pesticides based on the farmers' experience, the irrational use of pesticides, (they used different concentrations of pesticides), the ignorance of Qat-farmers of importance of wearing protective clothes, the properties and adverse effect of pesticides. The irrational use of pesticide causes environmental pollution and endanger the health of the people.

40% of farmers interviewed recognized beneficial organisms in the soil, 10% said that there is no beneficial organism in the soil, 50% of farmers don't know.

The goal of this study survey is to know the kinds of pesticides, which used by Qat farmers, and to reveal partly the healthy and environmental problems resulting from the misuse of pesticides by the Qat farmers.

Key words: Pesticides, Qat, Dahle' and Yafe' Districts

MARINE SCIENCES

Morphometric measurements and Meristic counts of *Strializa canaliculatus* (Muglidae) juveniles in Ras Momi (Socotra Island) fresh waters.

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Abstract

During the visit organized by the Center for Environmental Sciences and Studies, University of Aden, for studying the biodiversity of Socotra island during the period 28 April - 4 May 2003, the Aquatic Biological Team collected juvenile specimens from Arrar in Ras Momi which is situated in the eastern end of Socotra island. Morphometric measurements and meristic counts were taken and results were obtained and studied. Variations among individuals of the sample were revealed. Positions of fin origin from snout tip were localized and relationships between certain body parts were analyzed.

Key words: Juveniles, morphometry, meristic counts, Socotra.

MATHMATHICS

Generating Relations Of Some Quadruple Hypergeometric Functions

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Abstract

This paper deals with the generating relations of the quadruple hypergeometric functions $K_5, K_9, K_{10}, K_{11}, K_{12}$ and K_{13}. Also some linear generating relations for hypergeomtric functions of two and three variables have been established as special cases of our main results.

Key words: Special Functions, Generating Relations, Four variables hypergeometric functions, Laplace Transform.

MEDICINE

Head and Neck Cancer: Is it a Problem among Yemeni Patients ? (A five year retrospective study)

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Abstract

Head and neck cancer is a complex subject with many different sites and staging systems. It is a devastating tumor with numerous repercussions both for the medical system and for the individual patient with a rising incidence rate in most regions of the world where tobacco use and alcohol consumption is high. In Yemen, data on this cancer are few.

The aim of the present paper is to describe the pattern of major head and neck cancers registered in Aden Cancer Registry as regards cancer type, age and sex distribution, residency, and incidence rate. The registered cancers during the period 1st of January 1997 through 31st of December 2001 were analyzed to describe the pattern of head and neck cancers (oral cavity, pharynx, nasal cavity, larynx, paranasal sinuses and salivary glands, ICD 000-148 and 300-329). Canreg-3 and Epi-Info software were used in the analysis of data. Classification and coding of the neoplasm were carried out according to the ICD-O and ICD-10.

The study showed that head and neck cancers occupy the forth position among all registered cancers. Oral cancer was the most frequent registered cancer (36.3%), followed by nasopharyngeal cancer (31.6%) and laryngeal cancer (19.3%). Sex distribution showed that about two-thirds of cases occurred among males (36.7%). The incidence of these cancers increases with increasing age up to the age of 40-<60 years. Among males, the highest age-specific incidence rate of all head and neck cancers was observed at the age 55-64 years and the highest one was for laryngeal cancer, followed by oral cancer (9.3 and 7.1 per 100.000

inhabitants respectively). For females, the highest age-specific incidence rate was observed mostly at later age; 65-74 years for oral and nasopharyngeal cancers and 75 years and more for nasal cavity cancer with the highest age-specific incidence rate of 13.2 per 100.000 inhabitants for oral cancer.
We concluded that head and neck cancers are among the leading cancers in our community. The increase of awareness about the early warning signs of these cancers for their early detection and management The need for further larger studies to investigate the community-related risk factors and the survival of patients are pointed out.
Keywords: Head and neck, cancer, Yemen, Cancer Registry

Some clinico-epidemiological aspects of Yemeni children with Down's syndrome in Aden.

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Abstract

Down's syndrome is the commonest chromosomal anomaly among humans. This relatively common illness has never been studied among Yemeni children for which reason the author was motivated to carry out this scientific work.
The main objective of the study is to construct some baseline data of the problem.

Eligible cases were attended by the author during the period from May 1999 to April 2002. The study is an observational descriptive one based on clinical evaluation and interview with relatives and filling of the specific questionnaire.

A total of 92 Yemeni children were the total sample studied. The Male: Female ratio was 1.4: 1.0 with about 93% aged ≤ 6 years. Eighty per cent of the boys (65 out of 54) and 74% of the girls (28/38) were 0-3 years of age (p=~0.05;significant!!) The maternal age at pregnancy of the studied cases was > 30 years in around 76 % with a mean of 34.3 years. The simian creases were found in 43 % of the cases. No significant differences were found between males and females regarding the presence of creases. Likewise no significant association was found between maternal age and creases. Congenital heart diseases were detected in 17.4% and the other physically overt congenital malformations, in 50%.

The information is analyzed comparatively with the available literature on the subject and plenty and important conclusions were reached at.))

Key Words: Clinico-epidemiological study, Down's syndrome, Yemeni children, Aden)

Spectrum of Thyroid Diseases in Al-Gamhuria Teaching Hospital

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Abstract

A retrospective study was done to determine the most frequent thyroid lesions and the age of the highest incidence. A total of 201 cases were collected, of which

186 females (92.5%) and 15 males (7.5%). The most common type of thyroid lesions was nodular non-toxic goiter (48.8%) followed by diffuse (simple)goiter (12.9%), the third in frequency was adenomas(11.9%) followed by hashimoto's thyroiditis (10.4%). Carcinoma of the thyroid is the least common thyroid lesion (5.5%).
The most common affected age group was 30-39 for nodular non-toxic goiter, 20-29 for diffuse (simple) goiter and adenoma and 40-49 for hashimoto's thyroiditis,≥50 for follicular carcinoma and 30-39 for papillary carcinoma.
The female to male ratio was 18.6:1 for nodular non-toxic goiter, all cases were females in diffuse(simple)goiter and adenoma, and 9.5:1 for hashimoto's thyroiditis,4:1for follicular carcinoma and2:1 for papillary carcinoma
.
Key word: goiter, thyroiditis, carcinoma, thyroid cyst.

Management of injuries to the true Pelvis. Are we up-to-date?

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Abstract

The pelvic fracture is common in the orthopedic practice. It could be associated with morbidity and mortality due to urologic and vascular complications; respectively. Here is a report of the incidence of the above mentioned complications of this fracture, showing our auxiliary diagnostic methods and the frequencies of the therapeutic approaches. The current literature developments were reviewed in order to know where do we stand ?. To achieve our goals the necessary data were collected retrospectively from files of 74 cases that were consecutively and randomly admitted to our hospital between Jan-2000 and May-2003. The diagnosis of pelvic fracture and associated significant hemorrhage into the pelvic retroperitoneal space is totally clinical in our practice and its management is known to be a difficult task surgically. The current literature developments in the diagnosis and management of this problem has been discussed, and in this regard we found that our approaches are not up-to-date. But; regarding the diagnosis and management of bladder and urethral injuries we can say that we are up-to-date. A study of the outcome of these injuries has been recommended.

Key words: pelvic fracture, vascular, urologic injuries , management

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Evaluation of the current status of childhood malignancy in Al-wahda Teaching Hospital and a suggested plan for its future improvement

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Abstract

The aim of this study was to evaluate the current status of the Oncology Unit at Al wahda Teaching Hospital and its role in the management and treatment of childhood malignancy, and to suggest a plan for establishing a cancer center towards the improvement and advancement of the malignancy management and treatment in Yemen. 89 patients were admitted into the Oncology Unit in the past three years serving the subject of this study. A critical study of the management and treatment of these patients served the method of the research. In this study, it is revealed that leukemia (44.46 %) and lymphoma (31.5 %) were the most frequent cancer conditions in the patients. The rest (12.9 %) Included: rabdomyo-sarcoma, Willm's tumor, neuroblastoma, teratoma, hepatoblastoma and histiocytosis -X. Males constituted 67.4 % of the patients. The most affected age groups were, age group 2-5 years (35.96%) and 6-10years (34.9 %). The relative effectiveness of the management and treatment process is reflected by 44.9 % of alive patients and on regular treatment, and the 20.3 % of death cases. The rest 34.8 % were patients who discontinued treatment and their fate was unknown.

Most of the patients who benefit from the services of the Oncology Unit were from rural area, especially, from Abyan and Lahaj Governorates and the majority of the patients were from the low socioeconomic sector of the population who face difficulty in obtaining the necessary requirement of cancer treatment or going abroad. So, to contribute a solution for such social problem and to improve the advancement of this unit, a plan for establishing a cancer center was suggested on the basis of the result of this study.

On the basis of the result of the study, the following conclusion was deduced: - the present Oncology Unit has the capacity of the diagnosis, treatment and management of the cancer condition, but a further re enforcement is needed.

It is recommended that the suggested plan in this study should be implemented, and to establish a cancer center in the main region in the republic.

Keywords: childhood, malignancy, Oncology Unit, and multi displinary team.

PHARMACOLOGY

Short term effect of Khat on liver function , blood pressure and pulse

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Abstract

All substances that are abused should be investigated to prevent injury to the population.
The aim of the present study is to detect the effect of short term Khat chewing on liver function , the blood pressure and pulse of healthy volunteers.
Experimental study was done on 9 young healthy volunteers aging between 24 and 26 years old. Informed consent of each individual was obtained. Bilirrubin, alanin transaminase, alkaline phosphatase and total protein were measured at time 0 , 3 and 6 hours after starting the Khat chewing, whereas values at time 0 (zero) hours were taken as control. The blood pressures (systolic and diastolic) and the pulse were recorded at the same time-order. Confidence interval was calculated, with 95% of certainly. The difference of mean values for paired samples was applied to compare test values.
The results were shown that while there were significant changes in the values of the liver enzymes, alanin transaminase, alkaline phosphatase(within the normal range), and blood pressures (systolic and diastolic) and the pulse, there was no significant changes in the values bilirrubin and total protein during the time of Khat chewing.
It was concluded that short term effect of Khat chewing did not produce major alteration on liver function or blood pressure and pulse.

Key words: Khat , Liver function test , Systolic and diastolic blood pressure, Liver damage.

A comparison Study of New Spectrophtometeric Assay of α-Methyldopa tablets

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Abstract

Many spectrophotometeric methods have been described for the determination of α-Methyldopa powder and tablets. However most of these methods suffer from extraction, heating, time consuming for developing colour. The objective of this study to eliminate previous factors and to determine a simple and sensitive spectrophtometeric method.
A simple, and sensitive spectrophtometeric method is proposed for analysis of reference standard and four commercial brands of α-Methyldopa.
The method is based on the oxidation of α-Methyldopa by 0.25% K2CrO4 followed by oxidative coupling with 0.5% sulphanilic acid, to yield greenish-yellow product having maximum absorbance at 400 nm and the absorptions were taken after 5 minutes.

The system obeyed Beer's law over the concentration 10-175 mcg/ml. The relationship between absorbance and concentration was linear, by applying regression linear equation. We calculated the concentration of the drug from the calibration curve.
The common excipients and additives did not interfere with their determinations.
The results obtained by the proposed method compare statistically with official method (USP). There were no significant differences in precision between them ($p = 0.011$). The method was successfully used for the determination of α-methyldopa powder and tablets.

Key words: α-Methyldopa, estimation, spectrophotometric assay.

PHYSICS

Edge Magnification of Digital Pictures with Geometrical shape preservation

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Abstract

An adaptive edge image magnification (remapping) mechanism is presented in this paper. The motivation behind this work is to reduce the spatial resolution distortion; this arise when we reconstruct (the output image) from the original one via interpolation and remapping. The spatial resolution effect (like aliasing effect) is quite evident in the sharp regions (i.e., boundary i.e. edges or high frequency information) within the image. The reason of appearance of such effects is due to raster mapping methods, which are not suitable for images that contain significant amount of edges. Thus, the solution has to process the smooth components and the edge component in separable ways, as it will be explained in this paper.

Key words: Interpolation function, Edge detection, Edge thinning, Edge tracking, Spline Interpolation, Image Resampling.

ARABIC TITLES

AGRICULTURAL SCIENCES

Evaluation of Some growth characteristics and yield for common wheat lines (*Tritium aestivum L*)

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Abstract

This research was conducted at experimental farm of Nasser's Faculty of Agricultural Sciences – Aden University, during the two seasons 2000/2001and 2001/2002 to evaluate nine common wheat lines (*Tritium aestivum* L) which were introduced from Acsad and were compared with cultivar Kalyansona as a control in some growth characteristics and yield efficiency.
The results of evaluation could be summarized as follow:
The wheat lines significantly differed with themselves and cultivar Kalyansona in heading and maturity dates, the cultivar Kalynsona was later in heading and maturity dates than the most of lines during the first season, but during the second season the (control) didn't differ more than the wheat lines
Some of wheat lines didn't differ significantly with cultivar Kalyansona in plant height in both seasons .
No significant differences were appeared between the introduced lines and cultivar Kalyansona in number of tillers / plant in both seasons .
No significant differences were appeared between the some of introduced lines and cultivar Kalyansona in number of grain/spike and weight of 1000 grain in both seasons.
The most of introduced wheat lines gave significantly higher yield than cultivar Kalyansona in both seasons. The introduced wheat lines Acsad 967 gave the highest grains yield (2.984) ton/ha in first season, while Acsad line 959 gave the highest yield (2.576) ton / ha in the second season. The cultivar Kalyansona gave the lowest grain yield (1.406 and 0.872) ton/ha. in both seasons respectively.

Keyword : Evaluation , Growth , Yield , Wheat.

Effect of oil and Ethanolic Extract of Neem Seed Kernel (*Azadirachta indica A.Juss.*)on. *Fusarium solani and Alternaria alternata*

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Abstract

The effect of neem seed kernel oil and ethanolic extract on growth of Alternaria Alternata and Fusarium solani were investigated, and the effect of these materials on spores of F.solani were also studied .
Neem oil affected the growth of the two fungi. Percent of inhibition was dependent on concentration (2500 -20000 ppm), the more concentration of oil used, the more inhibition resulted. Ethanolic extract affected growth of the two fungi. Highest concentration of the extract resulted in the highest level of inhibition. When spores of F.solani were treated with both neem oil and ethanolic extract, it was observed that 20000 ppm of both led to complete inhibition of total colonies resulting from spores.

Key Words: Neem oil, Bioactivity, F.solani , A. alternata .

CHIMICAL

The use of wastage product from polymeric production as an additive for thermal viscosity properties of motor oil

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Abstract

The recent work purpose is to investigate the improvements for possibility of basic oil viscosity-temperature and low temperatures properties to used of atactic polypropylene (APP) and nitrated atactic polyisobutylene (NAPIB).
It's ascertained the study of additives upgrade the viscosity-temperature and low temperatures characteristics of the basic oil and it can be use for the production of motor oil M16D that meet the standers (BDS 9785) requirements.
It found the highest selectivity showed nitrated atactic polyisobutylene. The studied additives optimum concentration is 0, 50 %.

Key words: atactic polypropylene, nitrated atactic polyisobutylene, basic oil, viscosity , additive.

FOOD SCIENCES

The adding of Whey Concentrate for Local Smoked Cheese Manufacture

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Abstract

Whey or lactose rum is a sub- product produced from manufacture of all cheeses, it's quantity about 90% of the amount of milk used for making cheeses, the drainage of Whey conduit to increase the environmental pollution with organic matters, but whey has medical, preventive and therapeutic benefits, so the whey is a nutritive product. The amount of Whey concentrate was calculated to add 20, 30, and 40% of total solids to the milk for manufacture Yemeni smoked cheese. The results showed that adding 8.20 grams of Whey concentrate to 100ml of milk conduit to increase the yield of cheese up to 16.3 also improved the chemicals and organoleptics properties of the cheese. Adding 30% of Whey concentrate to 100ml of milk for smoked cheese manufacture conduit to significance differences ($p < 0.05$) in the total solids, protein, fat, fat to total solids, ash, yield and organoleptics properties in comparison with control sample.

It was found that microflora of the cheese samples examined revealed relatively low total bacterial count related mostly to the micrococci. Whey concentrate contained 27, 34 total solids, protein 16.85, fat 2.72, loctose 4.29, ash 3.2, lactic acid 0.28 and solids nofat 24.62%, for that we recommend to fortify the cow's milk used in Yemeni smoked cheese manufacture by whey concentrate up to 8.20 grams/ 100ml milk.

Keywords: Adding Whey, Smoked cheese, Manufacture.

MARIN SCIENCES

Stock assessment of rock lobster (Panulirus homarus) inhabiting The coastal waters of Al-Mahra Governorate in the fishing season 2002-2003

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Abstract

cording to statistical data of the received quantities of rock lobster, in all landing sites of Al-Mahra Governorate, by the Costal Fisheries Corporation branches in Al Mahra and Hadramout, collected during the fishing season 2002-2003; and by applying the stock assessment methods, the stock of rock lobster in the coastal waters of Al-Mahra Governorate estimated to be 432Tons. Quantity of allowable catch from these areas estimated to be 125Tons, and the effort (No. of boats) estimated to be 65 boat, daily, and each boat uses 40 traps. The study pointed out the negative results of increasing the effort (No. of boats, fishing gears) on the stock, the quantities caught and length composition of rock lobster. The study indicated a package of reformations to stop stock damage and over exploitation of rock lobster

Key word : Rock lobster stock , quantity of allowable catch , effort.

POST HARVISTING TECHNOLOGY

Harvesting and Threshing Losses of Sorghum and Wheat in Mid High Lands Region /Dhammar

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Abstract

This study was carried out during the period Sep.- Nov. 2002 in the mid high lands region (Dhammar)for sorghum and wheat . It has been conducted in two difference locations : (1) Ga'a Jahrran / Shurara village (2) Ga'a Bulassan / Yuffa'a village .The main objectives of this study were to determine the percentage of losses in both crops during harvesting and threshing , as well as to know the causes of these losses .

The study results showed that the harvesting losses of sorghum crop were 7.5% and 7.8% in Shurara village and Yuffa'a village respectively while the threshing losses were 11.3% and 11.6% in the same places respectively . The harvesting losses of wheat crop were 4.5% , 8% and the threshing losses were 9.6% , 15% in Shurara village and Yuffa'a village respectively
On the other hand, results showed that cost-estimated of grain losses for sorghum is 235,520,000 YR while for wheat is 257,040,000 YR.

Key words: Harvesting loss, Threshing loss, Sorghum , Wheat , Dhammar , Yemen .