

Volume 2, July 2011



# *Shrimati Indira Gandhi College*

*(Nationally Re-accredited at 'A' Grade by NAAC)*

## *Tiruchirappalli-2*



***SIGARIA -2011***

***Research Journal***

Volume 2, July 2011

**Shrimati Indira Gandhi College**  
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**SIGARIA**

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**SHRIMATI INDIRA GANDHI COLLEGE**

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Chatram Bus Stand, Tiruchirappalli-2, TamilNadu, India.

Tele Fax: 0431-2702797

e-mail : [sigctr@gmail.com](mailto:sigctr@gmail.com)



**SHRI.S. KUNJITHAPATHAM, B.Com, B.L**

**SECRETARY**



I am very happy to see that the second volume of the Research Journal SIGARIA is being published this academic year. I congratulate all my faculty members who have published articles in journals and the editorial team who have worked to bring out this edition successfully. I hope that their efforts will continue to improve in better ways.

**SECRETARY**

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## **SHRIMATI INDIRA GANDHI COLLEGE**

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Dr. S. VIDHYALAKSHMI, M.Sc., M.Phil, B.Ed., Ph.D

Phone: 0431-2702797

**PRINCIPAL**



*FOREWORD*

Every year marks a step further in academic excellence. This year we have more number of publications compared to the last year. Students and faculty are expected to nurture a research attitude and scientific temper to excel in the sphere of research. This journal is yet another mark of success in our endeavors. Congratulations to all concerned.

**PRINCIPAL**

*Email: vidhyasigc@gmail.com*

## ***Department of Bio- Chemistry***

- **Ms. A. Shanmuga Priya, Ms. V. Bharathi & Ms. Jannathul Firdous-** “Anti-Obesity effect of Tridax procumbens in atherogenic diet-induced obese rats”, International Journal of Pharmacy & Technology, ISSN: 0975-766X, (Peer Reviewed), Impact Factor: 0.6033, <http://www.ijptonline.com/>, Vol. 3(1), Page No. 1565-1569, March 2011.

### **Abstract:**

We evaluated the effect of tridax procumbens on total cholesterol, tricyclerides, total protein, free fatty acids and HDL cholesterol in atherogenic diet induced obesity rates. In atherogenic diet induced obesity mode, the rat receiving treatment with Tridax Procumbens showed significant reduction in total cholesterol, tryclcyerides total protein free fatty acids and elevation of hogh density lipoprotein cholesterol. Tridax Procumbens was found to possess significant antiobesity activity.

- **Ms. B. Varalakshmi & Ms. T. Karpagam-** “Caesalpinia Bonduc(L.)Roxb as a Novel Drug having hypoglycemic effect on alloxan induced diabetic rats”, International Journal of Pharma and Bioscience, ISSN: 0975 – 6299, Impact Factor -0.67, <http://www.ijpbs.net/>, (Peer Reviewed), Vol. 2(1), Page No: B-384 -391, Jan-Mar 2011.

### **Abstract:**

Diabetes mellitus is a major endocrine disorder. Herbal Treatments are becoming increasingly for its anti- hypoglycaemic activity at two different doses(100 mg/kg, 200 mg/kg body weight popular, as the herbal preparations have no or least side effects than synthetic hypoglycaemic drugs. Hence research has been focused on scientific evaluation of traditional hypoglycaemic investigated hypoglycaemic on blood glucose, lipid profile and antioxidant levels in alloxan induced diabetic rats against standard drug glibanclamide (600mg/kg b.w) Results of biochemical estimations were reported as mean  $\pm$  SD. It was conclude that from these studies the extract prepared from the leaves of caesalpinia bonduc (L) Roxb possess potential hypoglycaemic effects when compared with standard

drug anti- hypoglycaemic activity, 200mg/kg b.w dosage showed better anti-hypoglycaemic activity.

- **Ms. B. Varalakshmi, Ms. T. Karpagam & Ms. S. Gomathy-** “Effect of Different Doses of Cucurbita Pepo Linn Extract as an Anti-Inflammatory and Analgesic Nutraceutical Agent on Inflamed Rats”, International Journal of Pharmaceutical Research and Development, (Peer Reviewed) ISSN-0974-9446, <http://www.ijprd.com>, IJPRD 2011, Vol. 3(3):22, Page No. 184-192, May 2011.

**Abstract:**

Inflammation is the complex biological response of vascular tissues to harmful stimuli, such as pathogens, damaged cells or irritants. Inflammation is a protective attempt by the organism to remove the injuries stimuli as well as initiate the healing process of the tissue. A cascade of biochemical events propagates and matures the inflammatory response, involving the local vascular system, the immune system, and various cells within the injured tissue all the steroidal and non-steroidal anti- inflammatory drugs (NSAIDs), which have been used were heterogeneous group of compounds with pharmacological properties and side effects are probably polycompetent in that they are able to modulate more than one mediator or cellular event concerned with the inflammatory and analgesic activity of methanolic extract of powered ripe fruit flesh of Cucurbita pepo Linn. In three different doses (100, 200 & 300 mg/kg bw) on carrageenan and formalin induced inflamed rats against standard drug indomethacin (\*10 mg/kg bw). Results were reported as mean  $\pm$  SD. It was concluded from these studies that the extract prepare from the cucurbita peper Linn possess potential anti-inflammatory and analgesic activity which was comparable with standard drug indomethacin. Even though all the concentrations showed varying degree of inflammatory and analgesic activity, 300mg/kg bw showed better inflammatory and analgesic activity.

- **Ms. B. Varalakshmi & Ms. T. Karpagam-** “A Comparative study on the anti diabetic effects of Ingonella foenum graecum and caselpinia bunducella in alloxan induced

diabetic rats”, Biochemistry an Indian Journal, www.researchgate.net, ISSN – 0974 7427, Vol 4 Issue 2, Page No:89 -97 Dec 2010.

**Abstract:**

Diabetes mellitus is a metabolic disease characterized by defects in insulin secretion. Allopathic medicines decrease the glucose level by acting on pancreatic beta cells. Indigenous medicines are used to treat diabetes mellitus because, the side effects are less, easy availability and less expensiveness. Trigonella foenum graecum seeds and caesalpinia bonducella can increase glucose induced insulin release in human and rat pancreatic islets. The study was carried out to compare the antidiabetic potential of trigonella foenum graecum seeds and caesalpinia bonducella in alloxan induced diabetes rats. In our present study group I rats were treated with saline, group II rats with alloxan, Group III rats with methanolic extract of caesalpinia bonducella leaves along with alloxan and group IV rats with trigonella foenum graecum seeds powder along with alloxan group V rats with Glibanclamide along with alloxan for 21 days. The objective of the study was to analyze the diabetic profile, lipid profile, toxicity studies changes in the levels of Homocysten and to compare the anti-diabetic effects of trigonella foenum graecum and caesalpinia bonducella in alloxan induced diabetic rats.

● **Ms. V. Bharathi** -"Medicinal Properties of Piper Nigrum against Bacterial Pathogens Causing Urinary Tract Infection", J.Excotoxicol Environ. Monit, <http://www.connectjournals.com/>, ISSN: 0971 -0965, Vol. 20(5), Page No: 459 – 462, 2010.

**Abstract:**

Piper Nigrum finds an extensive application in antibacterial preparation belonging to ayurvedic system of medicine. The objective of this study is to determine the efficacy of medicinal plant piper nigrum against urinary tract infections. It was found that extract of P. Nigrum possessed greater anti-bacterial activity against bacterial pathogen causing urinary tract infection. Hence P. Nigrum could be exploited for the treatment of UT infections.

## *Department of Commerce*

- **Ms. A. Hemalatha-** “Not All Conflict is bad”, Personal Dynamism in Organizational Development, ISBN No-978-93-00767-15-4, Page No. 30-33, Mar 2011.

**Abstract:**

Ego conflict occurs in every workplace. In university environments where ideas and innovation are valued and diverse groups and personalities work and interact together, conflict will also arise the ego comprises the organized part of the personality structure that includes defensive, perceptual, intellectual-cognitive and executive functions. But the super-ego is constantly watching every one of the ego's moves and punishes it with feelings of guilt, anxiety, and inferiority. Misunderstandings as well as ego clashes also lead to conflicts. Every individual has a different way to look at things and react to various situations. It is always advisable to be very clear and very specific to avoid misunderstandings and conflicts. Any feedback or suggestions by an individual might not go very well with other individual leading to severe displeasure. It might hurt the ego of the other person resulting in a fight and major disagreement. Conflicts and fighting with each other never lead to a conclusion. If you are not on the same line as the other individual, never fight, instead try your level best to sort out your differences. Discussions are always better and wiser way to adopt rather than conflicts.



## ***Department of I.T & Application***

- **Ms. A. Gowri-** “A Review-Optimal path selection in Adhoc networks using fuzzy logic”, International Journal on Application of Graph Theory in Wireless Adhoc Networks and Sensor Networks, ISSN: 0975-7031, Vol.2 (4), Dec 2010.

### **Abstract:**

Ad hoc networks are collections of mobile nodes communicating with each other using wireless media without any fixed infrastructure. Designing routing protocols for this kind of restricted resources is very difficult due to dynamic characteristic of their network topology. A fundamental issue arising in mobile ad hoc networks is the selection of the optimal path between any two nodes. A route discovery attempt can possibly result in several paths being uncovered for a single destination. As nodes often have a finite capacity path cache, it may not be possible to store all paths. To improve routing efficiency the caching decisions of fuzzy logic system is to be appropriate. This action causes a cessation in the generation of low quality route, as only paths with good routing metrics are selected for the rebroadcast of route discovery packets.

- **Ms. K.Menaka-** “Mathematical Lensing of DNA Repeat Sequence”, Journal of Computational Intelligence in Bio-Informatics, <http://www.ripublication.com/>, ISSN 0973-385X, Vol. 3(2), Page No. 257-265, July 2010.

### **Abstract:**

The growth pace of tools for the comparative analysis of the intra genomic regions of DNA sequence is very small when compared with the output of the genomic sequence data. This necessitates a search for good and efficient techniques to rapidly scan, collate, analyze and retrieve sequences of interest and enable comparative analysis. Numerical and statistical approaches are promising candidates to face this challenge. The novel Technique of Mathematical Lensing, containing the combined power of matrix, statistical and numerical procedures, proposed and illustrated in this paper is one such attempt in the above direction. The results show compactness for comparative sequence studies and scope for potential applications.

## *Department of Management Studies*

- **Dr. J. Francis Mary-** “Core Banking”, Journal of Financial Services and Management, Dec 2010.

**Abstract:**

Levels of computerization vary significantly in the Indian banking industry. On the one hand there are centrally computerized and fully networked new private banks and foreign banks on the other there is little computerization in old private banks and public sector banks. This situation would not prevail if the entire banking system in the country were technology driven. This is evident from the fact that almost all banks are in the process of implementing the core banking solution and are also offering internet banking services.

Competitive pressures from private sector banks and multinationals have compelled banks in India to go ahead with their own technology-enabled transformation. The Banks have evaluated the option of choosing as IT partner to manage all its infrastructure and application requirements and an IT transformation centered on Core Banking. A Business perspective Core Banking relates to the banking business of a bank or financial institutions. It takes deposits from and lend to customers. While doing so, one has to ensure that profits are generated. A technology perspective Core Banking is the short name for a Centralized Banking system that a bank has to deploy in order to perform its core banking business.

## *Department of Computer Application*

- **Dr. K. R. Subramanian**- "Modeling of Non-Newtonic Blood Flow Resistance and Pressure Drop Through an Artery", International Journal of Applied Mathematical Analysis and Applications Serial Publication, ISSN: 0973 -3868, Vol. 6(1), Page No. 59-67, Jan 2011.

**Abstract:**

A model of blood flow through an artery has been formulated for improved generalized geometry of multiple stenosis located at equispaced points. We have assumed that the stenosis is mild and radically non- symmetric. A set of equations describes the resistance to flow ratio of an artery. Analysis solutions are based on homogeneous and irrotational flow through mathematically constructed vessels. Variations in resistance to flow ratio are subjected to alternations in flow behavior index, structural variations in relations to magnitude of vessels stenosis and multiple up normal segments. Graphical analysis demonstrates that the pressure drop across the stenosis decrease as the parameter  $S/R_0$  increases. The formulation of this model is mathematically more general and includes the results of the previous investigators as a special situation.

- **Dr. K. R. Subramanian**- "A Decision Tree Analysis for Predicting the Occurrence of the Pest Helicoverpa Armigera and its natural enemies on Cotton based on Economic Threshold Level", Current Science, ISSN 0011-3891, <http://www.currentscience.ac.in/>, Vol.1(2), Page No. 238 -246, Jan 2011.

**Abstract:**

The cotton bollworm, *Helicoverpa armigera* (Hubner) is one of the most important pests affecting crop production globally. The data mining technique, for predicting pest incidence using biotic and abiotic factors has not been developed so far. To identify the biotic factors that play a role in the occurrence of the pest, the decision tree analysis in conjunction in Shannon information measure was explored. The developed classification model has the ability to successful treat 'categorical' variables as well as 'continuous' variables in the database. The information theoretic classification method used in the present study was aimed at finding a minimal set of database attributes involved in the induced model and was

successful in predicting pest incidence. It was found that there was 8.82% misclassified testing data. The confusion matrix for the testing set revealed that the classification was done more accurately using the training set. The developed prediction or classification model will be helpful in forewarning about pest incidence and also to identify the factors influencing the pest population density. Using this model, agricultural farmers can apply pest control strategies on time to reduce crop loss.

- **Dr. K. R. Subramanian**- "Mathematical Lensing of DNA Repeat Sequence", Journal of Computational Intelligence in Bio-Informatics, ISSN 0973-385X, <http://www.inderscience.com/>, Vol. 3(2), Page No. 257-265, July 2010.

**Abstract:**

The growth pace of tools for the comparative analysis of the intra genomic regions of DNA sequence is very small when compared with the output of the genomic sequence data. This necessitates a search for good and efficient techniques to rapidly scan, collate, analyze and retrieve sequences of interest and enable comparative analysis. Numerical and statistical approaches are promising candidates to face this challenge. The novel Technique of Mathematical Lensing, containing the combined power of matrix, statistical and numerical procedures, proposed and illustrated in this paper is one such attempt in the above direction. The results show compactness for comparative sequence studies and scope for potential applications.

- **Dr. K. R. Subramanian**- "Effects of Biotic and Abiotic on Sugarcane Woolly aphid *Ceratovecuna Lanigera* Zehntener by using Shannon information gain value", Journal of Modern Science, ISSN: 1734-2031, <http://www.journals.indexcopernicus.com>, Vol. 2(2), Page No. 11-18, Sep-2010.

**Abstract:**

Sugarcane woolly aphid (SWA) has become a serious pest in peninsular India, causing significant loss in cane yield and sugar recovery. Excessive application of fertilizers will result in the outbreak of aphids. Biological control measures are necessary to control this pest to avoid

the crop loss. The study of effect of abiotic factors and biotic factors on pest incidence by using data mining technique is necessary to understand the pest population dynamics on different seasons. Hence, effort has been made to know about the factors playing a role on pest incidence by using Shannon Information theory. The information gain table revealed that season is playing a major role on pest incidence than *Dipha aphidivora*. Related with abiotic factors minimum temperature plays an important role on pest incidence. The results derived from Shannon information theory are agreed with statistical analysis.

- **Dr. K. R. Subramanian-** “Neural Network Classification for finding the occurrence of the *Helivercopa Armigera* and its Natural Enemies”, *Journal of Biological control*, ISSN:2230-7281, <http://journalofbiologicalcontrol.com/>, Vol. 5(2), Page No. 134-142, 2011.

**Abstract:**

Indian farming community is facing multitude of problems. The main problem in addressing the issue of pest management is inadequate knowledge about the factors influencing the pest dynamics. The accurate and timely prediction of the pest based on biotic and abiotic factors was essentially required for the insect pest management. In this paper, we present an intelligent system for prediction of the pest *Helicoverpa armigera* on cotton crop by considering the season, crop phenology, biotic factors and abiotic factors like maximum temperature, minimum temperature rain fall and relative humidity by using data mining technique. The single layer perceptron neural network with back-propagation algorithm was utilized for the design of the presented intelligent system. The results showed that the supervised neural network system could be able to classify or predict the pest incidences either high (prominent occurrence or above Economic Threshold Level) or low (non occurrence or below Economic Threshold Level) with high degree of accuracy. This pest prediction Artificial Neural Network (ANN) model will be helpful to take up the control measures in advance to reduce the crop loss.

- **Dr. M. Manimekalai-** “An overview of the role of data mining technique – association analysis in the classification of stocks”, *International Journal of Management Research and*

Technology, (Peer Reviewed), ISSN: 0974-3502, <http://serialsjournals.com/>, Vol.4, Page No.11 -14, June – 2010.

**Abstract:**

Selection of stocks that are suitable for a portfolio is a challenging task. Technical Analysis [1] provides a framework for studying investor behavior, and generally focuses only price and exchange data. Fundamental analysis involves analysis of a company's performance and profitability to determine its share price. By studying the overall economic conditions, the company's competition, and other factors, it is possible to determine expected returns and the intrinsic value of shares. This type of analysis assumes that a share current price depends on its intrinsic value and anticipated return on investment. As new information is released pertaining to the company's status, the expected return on the company's share will change, which affects the stock price, Growth prospects are related to the current economic environment.

- **Ms. A. Gowri, Ms. R. Valli, Mr. K. Muthuramalingam-** "A Review- Optimal path Selection in Ad hoc Networks using Fuzzy Logic", International Journal on Application of Graph theory on Wireless Ad hoc Networks and Sensor Networks, (Peer Reviewed), <http://www.airccsc.org/journal/jgraphoc/>, ISSN: 0975-7331, Vol. 2(4), Dec 2010.

**Abstract:**

A hoc networks are collections of mobile nodes communicating with each other using wireless media without any fixed infrastructure. Designing routing protocols for this kind of restricted resources is very difficult due to dynamic characteristic of their network topology. A fundamental issue arising in mobile ad hoc networks is the selections of the optimal path between any two nodes. A route discovery attempt can possibly result in several paths being uncovered for a single destination. As nodes often have a finite capacity path cache, it may not be possible to store all paths. To improve routing efficiency the caching decisions of fuzzy system is to be appropriate. This action causes a cessation in the generations of low quality route, as only paths with good routing metrics are selected for the rebroadcast of route discovery packets.

*Department of Mathematics*

- **Dr. S. Vidhyalakshmi-** “Integral Solutions of  $xy + x + y + 1 = z^2 - w^2$ ”, Archimedes J.Math. [www.domainsmoon.com](http://www.domainsmoon.com), ISSN 2278-084X, Vol. 7(1) (2010).

**Abstract:**

The Quadratic Diophantine equation with four unknowns of the form  $xy + x + y + 1 = z^2 - w^2$  has been studied for its non-trivial distinct integral solutions. A few interesting relations among the solution and special polygonal numbers namely, triangular number, Oblong number, tetrahedral numbers are presented.

- **Dr. S. Vidhyalakshmi-** “Integral Solution of Ternary Cubic Diophantine Equations  $x^2 + xy + y^2 = z^3$ ”, Impact Journal of Science and Technology, ISSN 0973 8290, Vol. 3, Page No: 29-37, 2011.

**Abstract:**

Patterns of non-trivial parametric integral solution of the ternary cubic Diophantine equation  $x^2 + xy + y^2 = z^3$  are obtained. Varieties of relation among the solutions are given.

- **Dr. S. Vidhyalakshmi –** Ternary Quadratic Diophantine Equation  $2^{4n+3}(x^3 - y^3) = z^4$  Impact Journal of Science and Technology, ISSN: 0973-8290, Vol. 4, Page No. 57-60, 2010.

**Abstract:**

The quadratic equation with three unknowns given by  $2^{4n+3}(x^3 - y^3) = z^4$ ,  $n > 0$  analyzed for its integral solutions are presented.

## *AREAS FOR RESEARCH*

### *COMPUTER*

- ✘ *Artificial Neural Networks*
- ✘ *Data mining*
- ✘ *Bio Informatics*
- ✘ *Image Processing and Pattern Recognition*
  
- ✘ *Computer Applications using Discrete Mathematical Tools*

### *COMMERCE*

- ✘ *Marketing*
- ✘ *Inventory Management*
- ✘ *Finance Management*
- ✘ *Effective Management & Administration*

### *MICROBIOLO*

- ✘ *Agricultural Microbiology*
- ✘ *Mycology*
- ✘ *Environmental Microbiology*

### *BIOCHEMISTR*

- ✘ *Biomolecules, Biotechnology*
- ✘ *Immunology Endocrinology Enzymes / Cancer Biology*
- ✘ *Techniques , Molecular Biology*
- ✘ *Clinical Biochemistry , Food & Nutrition*

### *TAMIL*

- ✘ *Mozhiyiyal*
- ✘ *Ariviyal Tamil*
- ✘ *Sangam Literature*
- ✘ *Bhakthi Literature*

### *MATHEMATIC*

- ✘ *Number Theory*
- ✘ *Fluid Dynamics*
- ✘ *Applied Mathematics*

### *MANAGEMENT*

- ✘ *Pay on perquisites*
- ✘ *Employability skills in Arts & Science*
- ✘ *Women Role in IT sector*

### *SOCIAL WORK*

- ✘ *Community Development*
- ✘ *Medical and Psychiatry*
- ✘ *Human Resource Management*



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