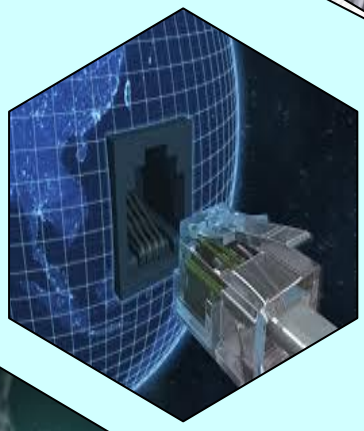
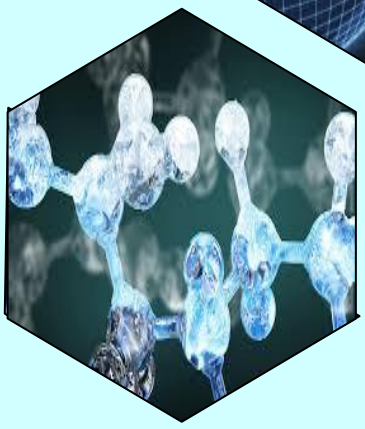
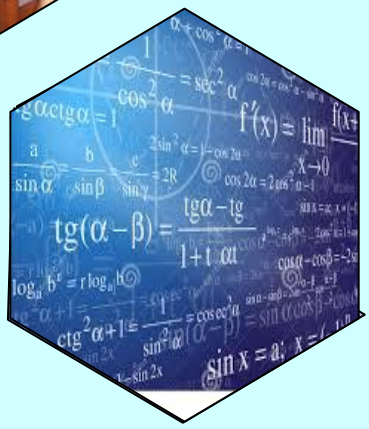
Shrimati Indira Gandhi College

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

Tiruchirappalli-2







SIGARIA -2012

Research Journal

Shrimati Indira Gandhi College
(Nationally Re-accredited at 'A' Grade by NAAC)
Tiruchirappalli-2

SIGARIA

RESEARCH JOURNAL

SHRIMATI INDIRA GANDHI COLLEGE

(Nationally Re-Accredited with 'A' Grade by NAAC)

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

Tele Fax: 0431-2702797

e-mail : sigctr@gmail.com

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

SECRETARY

I congratulate the Principal and Editorial Board of the college, for successfully bringing out the third volume of the research journal SIGARIA. It is indeed worth mentioning that the number of publications is gradually increasing every year. This could be attributed to the motivation given to faculty through the publication of the research journal. I wish the journal grand success.

SECRETARY

SHRIMATI INDIRA GANDHI COLLEGE

(Nationally Re-Accredited with 'A' Grade by NAAC)

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

Dr. S. VIDHYALAKSHMI, M.Sc., M.Phil, B.Ed., Ph.D Phone: 0431-2702797

PRINCIPAL

FOREWORD

With two more departments becoming research departments, the college has reasons to be proud of advances made in research. I believe SIGARIA has really started to motivate faculty to engage themselves in more research oriented activities. Best wishes for even more growth in this direction. I appreciate the work done by the Editorial team in this regard.

PRINCIPAL

Email:vidhyasigc@gmail.com

Department of Bio-Chemistry

- **Ms. P. Anitha-** "Hepatoprotective activity of Vanilla Planifolia against paracetamol induced hapatotoxicity in albino rats", International Journal of Pharmaceutical Life Science, (Peer Reviewed), www.ijplsjournals.com, ISSN 2249-6807, Vol. 1(3), Nov-Dec 2011.

Abstract:

The present study was conducted to evaluate the hepatoprotective activity of ethanolic extract of vanilla planifolia against paracetamol induced liver damage in rats. The ethanolic extract of vanilla planifolia (100 mg/kg) was administered orally to animals with hepatotoxicity induced by paracetemol (500 mg/kg). Silymarin (100mg/kg) was given as reference standard. All the test drugs were administered orally by suspending in 0.5% Carboxy methyl cellulose solution. The plant extract was effective in protecting the liver against the injury induced by paracetemol in rats. This was evident from significant reduction in serum enzymes alanine aminotransferes (ALT), asperate aminotransferesne (AST), alkaline phosphatase (ALP) and bilirubin. It was concluded from the result that the ethenolic extract of vanilla planifolia possesses hepatoprotective activity against paracetemol induced hepatotoxicity in rats.

- **Ms. P. Anitha-** "In-vitro Anti-bacterial Activity of Aegiceras corniculatum and Bruguiera cylindrical against isolated bacterial urinary tract infection", International Journal of Pharmaceutical and Research Development, (Peer Reviewed), http://www.ijprd.com/, ISSN-0974-9446 IJPRD 2011, Vol. III (11), Page No.120-125, Jan 2012.

Abstract:

This study was conducted to investigate the bioactive potential of mangrove plants to develop alternative drug development for the treatment of bacterial Urinary tract infections(UTIs) which are frequent infections in the outpatient as well as in the nosocomial setting. Two mangrove plants/ parts were investigated to evaluate the antibacterial activity against bacterial UTIs pathogens. Both of these plants, Aegiceras cornicilatum and Bruguiera

cylindrica exhibited excellent antibacterial activity against 5 bacterial pathogens viz. Escherichia coli, Klebseilla pneumonia aureus are isolated from urine samples.

- **Ms. P. Anitha, Ms. B. Varalakshmi, Ms.T.Karpagam & Ms. M. Bharani -** "Isolation & Characterization of marine sponges – Sigmadocial fibulatus", St. Josephs International Journal of Biological Science, ISSN: 2278-6570, Vol 1, Page No. 31-35 Jan 2012**.**

Abstract:

Sponges are the simplest of the multi-cellular, aquatic invertebrates, found in the deepest ocean to the edge of the sea. They can survive in a variety of circumstances and are present abundantly in nature but only a few of them have medicinal and commercial values. The rapid development of the pharmaceutical market has brought about a bloom of information regarding various bioactive compounds native to the sponges. These bioactive compounds play a vital role in the pharmacological industry. Recently various technologies developed to produce novel products from marine sponges and they contribute to human healthcare. A variety of natural products from the marine sponges have been found to exhibit remarkable antitumor, antimicrobial and anti-inflammatory activities. In the present study Sigmadocia fibulatus was extracted with aqueous ethanol and chloroform solvent were analyzed for antibacterial, anti fungal activity and hemolytic activity. The antimicrobial activity of ethanolic extract against staphylococcus aureus, pseudomonas aeruginosa and vibrio cholerae showed clear inhibition zone than othe extracts. Chloroform extract showed clear inhibition zone for Aspergillus niger and candida albicams. Zone of inhibition for haemolytic activity in chicken blood for ethanolic, chloroform extracts were found to be 1.4 cm and 1 cm for aqueous extract.

- **Ms. A. Shanmuga Priya**, **Ms. S.R.Subashini, Ms. G.Gayathri, & Ms. S.Jannathul Firdous**- "Antibacterial Activity and Phytochemical studies of Ocimum Gratissiumu L.", International Journal of Pharmaceutical and Research Development, (Peer Reviewed) ISSN-0974-9446, http://www.ijprd.com, Vol. III(11), Page.No.200-204.

Abstract:

In recent years interest in medicinal plants has increased considerably. Antibacterial activity ethanol, Chloroform and ethyl acetate extract of leaves, roots and stems of ocimum gratissimum.L were tested against E. coli, Staphylococcus aureus and klebsiella pneumonia. Then the zone of inhibition after 24 hours was calculated. Chloroform solvent of root extract was found to be more effective than leaf and stem extracts against E. coli. The phytochemical analysis using the proton NMR spectral data of petroleum sample suggested the presence of benzoid group, methoxy group and an amide group, a compound named N-Salicyloyl-2-amino-1-metboxy propane which may be the cause of antibacterial activity in the root of ocimum gratissimumL.

- **Ms. A. Shanmuga Priya**, **Ms. V. Bharathi & Ms. S. Jannathul Firdous** "Cardio Protective Nature of N-Acetyle Cystine against Beta Adrinergic Agonyst Induced Myocardial Infarction in rats", International Journal of Pharmaceutical and Research Development, (Peer Reviewed) , ISSN-0974-9446, http://www.ijprd.com, Vol. III(11), Page No.137-145, Jan 2012.

Abstract:

The Biological effect of NAC pretreatment against isoproterenol induced myocardial infarction was studied in male albino rats. The activities of mitochondrial enzymes and level of antioxidants were estimated in heart mitochondria. The levels of cholesterol, triglycerides and FFA were also estimated in the serum of control and experimental rats. Isoprotrenol levels of antioxidants and mitochondrial enzymes, and increased the levels of triglycerides, cholesterol, FFA. Treatment with NAC confirms the protective and inhibitory effect against isiproterenol induced lipid per oxidation.

- **Ms.A.ShanmugaPriya**, **Ms.B.Varalakshmi, Ms.S.Gomathi, Ms.T.Karpagam & Ms.V. Bharathi**-"Antibacterial activity of Tridax Procumbens Linn", Journal of Pharmascience, ISSN-0975-9492, (Peer Reviewed), Impact Factor: 1.04, Index Copernicus Value (ICV):5.69, http://ijps.aizeonpublishers.net/, Vol. III, April 2012.

Abstract:

Tridex procumbens Linn belongs to the family composite. The extracts of tridex procumbens have been reported to have various pharmacological effects like mosquito repellant activity, leishmanicidal, hepatoprotective effect on liver antioxidant system, immunomodulatory effect, wound healing activity and antiprotozoal effects. The methanolic and ethel acetate extracts of tridex procumbens were used for this study. The anti bacterial activity of the methanolic and ethel acetate leaf extract of tridex procumbens Linn(L). were examined against Escherichia coli,, Klebsiella pneumonia, Salmonella typhi, Basillus cereus and acetate extracts of the Tridex Procumbens showed effective inhibition against the staphylococcus aureus than compared to other organism. Therefore the leaves of Tridex Procumbens can be considered to be the promising source of antimicrobial compounds.

- **Ms. A. Shanmuga Priya, Ms.B.Varalakshmi, Ms. T.karpagam, Ms. S. Gomathi & Ms. V. bharathi** "Anti-microbial activity and phytochemical studies of flowers of Tribulus terrestris", St.Josephs International Journal of Biological Sciences, ISSN: 2278-6570, Vol. 1, Page No. 47-50, Jan 2012.

Abstract:

Traditional medicine has been practiced for many years. Then interest in the study of medicinal plants as a source of pharmacologically active compounds has increased worldwide. It is recognized that in some developing countries, plants are the main medicinal source to treat infectious disease. Plant extracts represent a continuous effort to find new compounds with the potential to act against multi-resistant bacteria. The phyto-chemical analysis of aqueous and ethanolic extract of Tribulas terrastris was evaluated. The aqueous and ethanolic extract of Tribulus terrestric contains alkaloids, tannin, flavanoids, quinoes, phenolic compounds. In the present study the antimicrobial activity and phytochemical status of aqueous and ethanolic flower extracts of Tribulus Terrestric (L) was evaluated. It was found that the aqueous extracts of tribulus terristris possessed antibacterial activity by inhibiting the growth of selected bacteria viz S aureus and P. aeruginosa as different concentrations indicating broad spectrum bioactive nature of tribulus terristris. Among the different concentrations, 75 mg of the extract possessed the maximum antimicrobial activity.

- **Ms.B.Varalakshmi, Ms. T. Karapagam, Ms. S. Jannathul Firdous & Ms. S.Gomathi-** "A comparative Study on the effects of Herbal and Conventional Medicine on Cardio-Vascular Disease", International Journal of Pharmaceutical Research and Development, (Peer Reviewed) ISSN-0974-9446, http://www.ijprd.com, Vol. III (7), Page No: 128-133, Sep 2011.

Abstract:

The present study has been carried out to determine the comparative effects of terminalaya arjuna bark and metoprolol on the sialic acid, MDA< LDH, SGOT, CPK and lipid profile in cardiac patients visited at Thanjavur Medical College, Thanjavur. The age of the subjects was 40-60 years. Two groups of cardiac patients who were under herbal and conventional treatment for three months were choosen as test subjects. Fasting blood samples were taken and used for biochemical analysis. In Terminalaya arjuna bark treated group, the sialic acid MDA, LDH, SGOT, CPK, Choleterol, LDL, VLDL, TGL were significantly decreased 5.63%, 33%, 21%, 41.78%, 12.34%, 12%, 20%, 6.1%, 24% respectively, while HDL was significantly increased 6,8& when compared to metoprolol treated group. The results of present study showed that Terminalay arjuna bark had ability to reduce lipid markers which is a major risk factor for patients suffering from myocardial infarction. The results were also comparable with metoprolol, the standard drug for myocardial infarction.

- **Ms.B.Varalakshmi, MS. T. Karpagam, Ms. G. Gayathri & Ms. M. Bharani-** "Synthesis and characterization of silver Nano Particles from Wrightia Tinctoria", International Journal of applied biology and Pharmaceutical Technology, (Peer Reviewed) Universal Impact factor [2013]: 0.9860, http://www.ijabpt.com/, ISSN-0976-4550 Vol.III (1), Jan-March 2012.

Abstract:

In our present study the conventional (Physical and Chemical) method of nano particles synthesis was replaced with biological synthesis of silver nano particles by using the leaf extract of Wrightia tinctoria. New drug delivery system has been enhanced. With novel techniques in particle synthesis and its role in drug delivery system, by exploiting the nano technology particle synthesis. The aqueous extract of wrightia tinctoria leaves was prepared and mixed with 1mM $AgNO_3$ solution. After 48 hours the reduction of silver nitrate to silver nanoparticles

was confirmed by UV-visible spectrophotometer. The sizes of silver nanoparticles were characterized by XRD and FTIR and the size were of 19- 68 nm. The biosynthesis of AgNPs using Wrightria tinctiria leaf extract is very simple and economic. This green chemistry approach is amenable to large scale commercial production. The use of environmentally benign and renewable plant material offers anormous benefits of eco-friendliness.

- **Ms.B.Varalakshmi-** "A Comparative Study on the Anti-Diabetic Potential of Alovera Gel and Fenugreek Seeds on experimentally induced Diabetic Rats", Pharmacognosy Communication, (Peer Reviewed) [ISSN: 2249-0159 (Print); 2249-0167 (Online)], Vol. 2(1) Page No.57-61, March 2012.

Abstract:

In the present study, the anti-diabetic property of an ethanolic extract of Aloe vera leaf gel and fine crude powder of fenugreek seeds were compared. Oral administration of aloe vera gel extract at a concentration of 300mg/kg body weight and Fenugreek seeds powder extract at a concentration of 2g/kg bodu weight alloxan-induced diabetes in rats significantly decresed the levels of blood glucose and glycosylated hemoglobin. The increased levels of lipid peroxidantion in the pancreas of diabetic were reverted back to near normal levels after the treatment with Aloe vera gel and Fenugreek seeds powder extract. A significant increase was observed in SOD, Vitamin C, Vitamin E levels in Aloe vera gel and Fenugreek seeds powder extract treated rats. These extracts were also more effective than glibenclamide in restoring the levels to near normal.

- **Ms.B.Varalakshmi-** "Invitro Antioxidant activity of cinnamomum zeylanicum linn barks", International Journal of Institutional Pharmacy and Life Science, ISSN: 2249-6807, www.ijipls.com, Vol. 2(3), Page No.154-166, May 2012.

Abstract:

There has been growing interest in the health benefits associated with natural compounds and have been demonstrated with emphasis and antioxidants. Phenolics in fruits, vegetables, herbs and spices possess potent antioxidant, anti-inflammatory, antimutagenic activities. Te present study focused on the anti-oxidant activity of chinnamomum zeylanicum Linn bark

under in vitro conditions. The dried bark of chinnamomum zeylanicum was extracted with water, methanol and chloroform using a soxhlet extractor. The total phenolics content of bark as determined by Folin-Ciocalteu method and was found to be 253.33±23.09 mg/g of pyrocatechol equivalents. The extracts were tested for their radical scavenging ability against a battery of radical such as DPPH, ABTS, H_2O_2, superoxide anion (o_{2-}) Nitric oxide (NO) Hydroxyl radical (HO) and ferric reducing ability. Among the three extracts used methanolic extract showed the most scavenging activity of free radicals followed by chloroform and aqueous extract. The results suggested that chinnamomum zeylanicum Linn bark could serve as a potential source of antioxidant and can be used in any preparations for combating free radical mediated damage to the body.

- **Ms.B.Varalakshmi-** "Antioxidant Status of Cinnamomum Zelanicum Linn Bark", International Journal of Universal pharmacy and Life Sciences, ISSN: 2249-6793, www.ijupls.com, Vol. 2(3), Page No. 409-421, May-June 2012.

Abstract:

Many oxidative stress related disease are as a result of accumulation of free radicals in the body. A lot of researches are going on worldwide directed towards finding of natural and safe food based antioxidants of plant origins. The aim of this study is to screen for the phyto-chemicals especially enzymic and non-enzymic antioxidant in bark of Cinnamomum zeylanicum. The antioxidant enzymes analyzed were superoxide dismutase and catalase , peroxidase and polyphenol oxidase. The non-enzymic antioxidants analyzed were ascorbic acid, $\alpha-$ tocopherol, total carotenoids, lycopene, reduced gluthathione, total phenols and flavanoids. The total phenolics content and flavanoids were found to be higher in the bark than other non-enzymic anti-oxidants. The total phenolic content was 153.33± 23.09mg of pyrocatechol equivalents /g of powdered bark. Our findings provided evidence that the bark opf chinnamomum zeylanicum is a potential source of natural anti-oxidants, and can be used in any preparations for combating free radical mediated damage to the body.

- **Ms.B.Varalakshmi & Ms. T. Karpagam**- "An Indigeneous Anti-ulcer activity of Musa Sapientum of peptic ulcer", Journal of Pharmacy Research, http://www.sciencedirect.com/, Vol. III, Page No.230-238, Oct 2011.

Abstract:

Background: Peptic ulcer disease(PUD), encompassing gastric and duodenal ulcers is te most prevalent gastrointestinal disorder. The pathophysiology of PUD involves of imbalance between offensive factors like acid, pepsin and defensive factors like nitric oxide and growth factors. The clinical evaluation of antiulcer drug showed tolerance, incidence relapses and side-effects that make their efficacy arguable. An indigenous drug like Musa sapietum possessing fewer side-effects is the major thrust area of present day research, aiming at a better and safer approach for the management of PUD. **Materials and methods:** The unripe plantain bananas were share-dried powdered and used for phytochemical analysis and as antiulcer drug. In our present study Group I rats served as control and were treated with saline, Group II was indomethacin-induced ulcerated rats, Group III received aqueous extract of Musa sapietum along with indomethacin and Group IV received esomeprazole. **Results:** Our findings from high performance Thin layer chromatography analysis showed that Musa sapietum has an active compounds a monomeric flavanoids with anti-ulcerongenic activity. Results were expressed as mean $\pm$ SD. All our results are in congruous with the results of standard drug esomeprazole. **Conclusion:** It could be clearly concluded that administration of the aqueous extract of Musa sapietum at the dose used in this study tends to ameliorate ulcers. Its use in indigenous medicine should be scientifically scrutinized with further research.

- **Ms. V. Bharathi** "Antibacterial Activity of the plant extract of Symphytum Officinate L, against Selected Pathogenic Bacteria", International Journal of Research in Pahrmaceutical Sciences, (IF: 5.44), http://irps.pharmascope.org/, ISSN: 0975-7538, Vol. 2(1), Page No. 92-94, 2011.

Abstract:

Comfrey is promoted in Ayurvedic and other herbal systems. Wit claims for benefit in disorders such as peptic ulcer. Comfrey also has been commonly used as topical anti-

inflammatory healing agent. The present stogy was carried out antibacterial activity of Symphytum Officinate L. By streak plate method using different solvent such as ethanol, methanol, ethyl acetate and chloroform. Both grain positive and gram negative bacterial strains were found to be sensitivity to the leaf extracts to all the solvents except chloroform at higher concentration.

- **Ms. T. Karpagam, G. Banukarthi, P. Lakshmi Prabha, S. Jannathul Firdous, S.R. Subashini -** "A New Photometric Method of Assay of Vitamin C in Tomato", International Journal of Institutional Pharmacy and Life Sciences, (Peer Reviewed), ISSN: 2249-6807, http://www.ijipls.com, Vol. 1 (2), Page No.66-74.

Abstract:

Ascorbic acid is an important water soluble vitamin which is present in several natural foods as well as pharmaceutical preparations. In our present study an indirect colorimetric method of estimation of ascorbic acid present in to tomato fruits was carried out. The proposed method was to oxidize ascorbic acid present in the sample (tomato) with potassium chromate as oxidizing oxide agent in the presence of a mineral acid and by determining the un-reacted amount of potassium chromate photo-metrically by converting it into a violet colored chromium(VI) complex by reacting with, 1,5 diphenylcarbazide. This indirect photo-metric determination of ascorbic acid is more selective and sensitive wherein trace quantities of Vitamin C in samples may be determined. The level of acid concentration was also determined which is very accurate. The precision and accuracy of the new method was evaluated by comparing the result with standard method of titration of ascorbic acid against 2,6-diphenylcarbazide – indophenols (DCPIP). The fruit samples may contain other materials like carbohydrates (sugar), and organic acids along with a trace quantity of Vitamin C. The level of interference of such sugars and carboxylic acids in the proposed photometric method of determination of ascorbic acid was also ruled by comparing with standard method.

- **Ms. T. Karpagam**- " A Comparitive Study of ranitidine and esoneprazole on nitric oxide production in indomethacin induced ulcerated rats", International journal of Scientific Transaction in Environment and Technovation, Vol. IV(4), Page No.151-154, Aug 2011.

Abstract:

The present study was designed to evaluate the effect of Esomeprazole and Ranitidine in Nitric oxide production on indimethacin induced ulcerated rats. Indimethain induce gastric damage by decreasing the production of nitric oxide and prostaglandins, which was reversed by Esomeprazole and Ranitidine. The results also suggest that the former is more effective than the letter in restoring NO production thereby protecting the gastric lumen.

- **Ms. T. Karpagam** "Studies on the efficacy of Aloevera on antimicrobial activity", International Journal of Research in Ayurveda and Pharmacy, IC Value 2012: 6.33, Indexed in Scopus, ISSN: 2229-3566, http://www.ijrap.net/, Vol. II (4) Page No.1286-1289.

Abstract:

The aqueous, ethanolic, methanolic, petroleum ether and acetone extracts of Aloe vera were screened for anti-microbial activity using the Minimal Inhibitory Concentration (MIC) method. They were tested agaist five bacteria (Escherischia coli, Pseudomonas aeruginosa, Bacillus Subtilis, Klebsiella pneumonia and staphylococcus aureus)The susceptibility of the microorganism to the extract in different concentrations plants were compared. The active component in the extract was determined using HPLC technique. The main aim of this study was to find anti-microbial activity of Aloe vera and to find the presence of active compounds present for the treatments of disease caused by pathogenic microorganism.

Department of Chemistry

- **Ms. P. Lakshmi Prabha, S. Jannathul Firdous, T. Karpagam, G. Banukarthi, S.R. Subashini -** "A New Photometric Method of Assay of Vitamin C in Tomato", International Journal of Institutional Pharmacy and Life Sciences, (Peer Reviewed), http://www.ijipls.com, ISSN: 2249-6807, Vol. 1 (2), Page No.66-74, 2011.

Abstract:

Ascorbic acid is an important water soluble vitamin which is present in several natural foods as well as pharmaceutical preparations. In our present study an indirect colorimetric method of estimation of ascorbic acid present in to tomato fruits was carried out. The proposed method was to oxidize ascorbic acid present in the sample (tomato) with potassium chromate as oxidizing oxide agent in the presence of a mineral acid and by determining the un-reacted amount of potassium chromate photo-metrically by converting it into a violet colored chromium(VI) complex by reacting with, 1,5 diphenylcarbazide. This indirect photo-metric determination of ascorbic acid is more selective and sensitive wherein trace quantities of Vitamin C in samples may be determined. The level of acid concentration was also determined which is very accurate. The precision and accuracy of the new method was evaluated by comparing the result with standard method of titration of ascorbic acid against 2,6-diphenylcarbazide – indophenols (DCPIP). The fruit samples may contain other materials like carbohydrates (sugar), and organic acids along with a trace quantity of Vitamin C. The level of interference of such sugars and carboxylic acids in the proposed photometric method of determination of ascorbic acid was also ruled by comparing with standard method.

- **Ms. P. Lakshmi Prabha -** "A Comparative Study on the Effects of Herbal and Conventional Medicine on Cardio-Vascular Disease", International Journal of Pharmaceutical Research and Development, (Peer Reviewed), ISSN: 0974-9446, http://www.ijprd.com, Vol. III(7), Page No. 128-133, Sep 2011.

Abstract:

The present study has been carried out to determine the comparative effects of terminalaya arjuna bark and metoprolol on the sailic acid, MDA, LDH, SGOT, CPK and lipid profile in cardiac patients visited at Thanjavur Medical College, Thanjavur. The age of the subjects was 40-60 years. Two groups of cardiac patients who were under herbal and conventional treatment for three months were choosen as test subjects. Fasting blood samples were taken and used for biochemical analysis. In Terminalaya arjuna bark treated group, the sialic acid MDA, LDH, SGOT, CPK, Choleterol, LDL, VLDL, TGL were significantly decreased 5.63%, 33%, 21%, 41.78%, 12.34%, 12%, 20%, 6.1%, 24% respectively, while HDL was significantly increased 6,8& when compared to metoprolol treated group. The results of present study showed that Terminalay arjuna bark had ability to reduce lipid markers which is a major risk factor for patients suffering from myocardial infarction. The results were also comparable with metoprolol, the standard drug for myocardial infarction.

Computer Science

- **Ms. M. Gomathy**- "Classification of Speech Signal Based on gender a hybrid approach using Nero Fuzzy Systems", Springer Journals - International Journal of Speech Technology, Berlin, Germany(Peer reviewed) www.springer.com/journal/10772, ISSN:10712-011-9118-0, Vol.14, Page No. 377-391,Oct 2011.

Abstract:

One of the most important processes is gender classification. Generally gender classification is done by considering pitch as feature. In general the pitch value of female is higher than the male. In some cases, pitch value of male is higher and female is low, in that cases this classification will not obtain the extract result. By considering this drawback here proposed a gender classification method which considers three features and uses fuzzy logic and neural network to identify the given speech signal belongs to which gender. For training fuzzy and neural network, training dataset is generated by considering the above three features. After completion of training, a speech signal is given input, fuzzy and neural networks gives an output, for that mean value is taken and this value gives the speech signal belongs to which gender. The result shows the performance of our method in gender classification.

- **Ms. M. Gomathy** -"Gender grouping in speech recognition using statistical metrics of pitch Strength", International European Journal of Scientific Research, London, United kingdom (Peer reviewed) www.europeanjournalofscientificresearch.com/, ISSN-1450-216X Vol.61(4), Page No. 524-537, Nov 2011.

Abstract:

Gender grouping is one of the most important processes in speech recognition. Generally gender grouping is done by considering some parameters in the speech. Among them the most important parameter is frequency. Normally the frequency of females is higher than that of the males. By considering this condition the gender grouping is done. In some males the frequency is very high and in some female the frequency is very low. In such situation we didn't get the exact result. So, here we propose gender grouping method which considers three features and uses the Euclidean distance method to calculate the distance between the features. For that

first a common threshold value is calculated from the training dataset and during testing if we give a set of speech signals as input. The output we obtained is grouping of group signals based on gender. The implementation result shows the performance of our proposed technique in gender grouping.

- **Ms. M. Gomathy** -Performance Analysis of gender Clustering and classification algorithms", International Journal of Computer Science and Engineering , Chennai, Tamilnadu (Peer reviewed) www.enggjournals.com/, ISSN-0975-3397, Vol.4(3), Page No.442-457, March 2012.

Abstract:

In speech processing, gender clustering and classification plays a major role. In both gender clustering and classification, selecting the feature is an important process and the often utilized feature for gender clustering and classification in speech processing is pitch. The pitch value of a male speech differs much from that of a female speech. Normally, there is considerable frequency vale difference between the male and female. But, in some cases the frequency of male is almost equal to female or frequency of female is equal to male. In such situation, it is difficult to identify the exact gender. By considering this drawback, here three features namely: energy entropy, zero crossing rate and short time energy are used for indentifying the gender. Gender clustering and classification of speech signals are estimated using the aforementioned three features. Here, the gender clustering is computed using Euclidean distance, Mahalanobis distance, Manhattan distance & Bhattacharya Distance method and the gender classification method is computed using combined fuzzy logic and neural network, neuro fuzzy and support vector machine and its performance are analyzed.

Department of Information Technology & Applications

- **Ms. A. Gowri-** "Retrieving Information from Brain with Blocking Potential Preliminaries", International Journal of Science and Computer Mathematics, ISSN: 1829-4969, http://www.pphmj.com/, Vol.1, Page No.107-112, 2012.

Abstract:

The rapid development of new learning algorithm increases the need of improved accuracy. Moreover, the method allowing comparison of several learning algorithms is important for the performance and the evaluation of new one. Human brain can be regarded as sophisticated processing system, capable of general computation and flexibility. The solution must be balanced in all constraints, which should be adjustable and reliable. It tries to propose a new view for retrieving the information stored in the brain. The core contribution resides in the scrutiny of brain at neuron level based on blocking potential actions. The theories outlined here are fairly physiological oriented, although the level of neuroscience rigor is relatively low, in order to provide a new insight and understanding rather than to establish rigorous physical foundation.

Department of Management Studies

- **Ms. S. Santhi-** "Direct Sales and Production of Tapioca in Perambalur district", Southern Economist, ISSN No: 0038 - 4046, Vol. No. 50(8), Page No.15-18, Aug 2011.

Abstract:

The study reveals that there is a significant difference between the quantities of tapioca directly sold to consumers and production of tapioca made by small, medium and large cultivators during the period of study in perambalur district. This significant difference between direct sales and production of tapioca incase of large cultivators is better to some extent followed by medium cultivators and small cultivators. The significant difference is due to having through knowledge about marketing information in case of large cultivators and lack of marketing information in case of small cultivators.

- **Ms. S. Santhi-** "Socio Economic Dimensions and Problems of Child Labour in Unorganized sectors, Tiruchirappalli district", Economic Affairs, Dec 2011, ISSN No. 0424 - 2513, Vol.56(4), Page No.365-376, Dec 2011.

Abstract:

Child labor is not a new phenomenon in India. The phenomenon of child labor is deep-routed in socio-economic satisfaction, mass poverty, illiteracy and unemployment particularly in rural and semi urban areas of India. The child labor system in India is an age old phenomenon. But its evil effects got prominence only after the industrial revolution in England. Early Employment retards the development of child. Lower wages coupled with illiteracy and adult employment force them to work ant it perpetuates from generation to generation in their families forming vicious circle of poverty and child labor. Before the introduction of industrialization children worked as a helpers and learners in hereditary determined family occupations under the supervision of adult family members. The work place was an extension of the home, and the work was characterized by personal and informal relationships. The social scenario changed rapidly with the advent of industrialization and urbanization. Hence the

researcher has undertaken a study on “socio economic Dimensions and problems of child labor in organized sectors, Tiruchirappalli District.

- “Price Spread and Marketing Efficiency of Topioca in Salem Sistrict”, Kaveripakkam College Journal of Management Research, ISSN No. 2249 - 6459, Vol. 2(2), Page No.44-47, March 2012.

Abstract:

Tapioca is an important horticultural crop grown in India. Nearly 10 percent of tapioca production in the world is from India. Tapioca is cultivated in a number of states, and among the states, the share of Tamilnadu in area and production was the highest till 2009-10. In Tamilnadu, salem district is famous for production of tapioca. The increase production of tapioca has give rise to several marketing problem like shortage of trained graders, packing materials, inadequate storage, inefficient transportation, lack of processing and infrastructure facilities.

- **Dr. S. Umaprabha** “A Study on Consumer Behavior and Factors about the cost of the cement materials”, Proceedings of the Joint International Conference on Advanced Materials, Page No.185-190, Vol. 1(4), Aug 2011.

Abstract:

Cement is an important building material, which control the building activity. It is the key factor in the economic development of our country. The increase in cost of cement has worsened the existing situation in the building industry and hence the speed of the building activities is retarded. When the building industry is being developed further and further, the demand for the cement is also increasing. The cement industry is having a very good potential for development. Since the raw materials are available in plenty in our country. Th government is also encouraging directly and indirectly for the increased production of cement. Even then the cost of cement is increasing which tries to pull down the speed of the development of building industry. The reasons for the increase in cost of cement are being analyzed and removed for the cost reduction of cement. One of the reason is the transportation problem, which is developed

by the increase is cost of diesel. Another reason, for the increase in the cost of cement is, is the huge demands by the contractors, who are in a hurry to complete the existing projects which are to be completed within the financial year. Government as well as the public is not to interested in the increase in the price of cement. Since, a better national economic development can be achieved. If the building industry is developed which can be made possible by the increased usage of cement, which is once again possible only with a reduce cost of cement. While in the first phase, the reasons for the increased cost of cement are analyzed in the second phase, the effect may also be analyzed. The people, interested in the constructing their own houses will be finding it difficult to do So, because of the cost increased and hence the construction activity may be reduced. House owners will try to encase the situation, by increasing the rent. The tenants being normally, the employees, may ask for salary increase and in turn this situation will develop many problems in various sectors and departments. Because of the above reason, the speed of the development of the building industry will be reduced. The government may empower the appropriate regularity agencies to have a control over the price rise of cement. The authorities should see that, the production of cement is increased and sustained. The commodity should be available in surplus in the market, which will enable the price to come down. The government may plan for the construction of houses, for the people. The government can take necessary steps to support and encourage the cement producing companies to enable them to produce more quantity of cement at a lesser cost. And developing new cement factories for more production cement.

P.G Department of Computer Application

- **Dr. K.R. Subramanian-** "Sheet Metal Forming Limit Stress and Strain Prediction Based on Newly Generalized field criterion", International Journal of Computational Material Science and Surface Engineering, ISSN online: 1753-3473 ISSN print: 1753-3465, http://www.inderscience.com/, Vol. 4(4), Page No. 311-315, 2011.

Abstract:

A new form of yield theory considering an anisotropic for sheet metal has been derived and proposed in this technical paper. In addition to this, the flow rule with anisotropic parameter for sheet metals is introduced. The mathematical expressions for the calculation of flow stress in the case of simple compression-tension, tension-tension test is deduced from the yield theory for the sheet metals. The developed yield theory is used for obtaining the mathematical expressions of their limit strains in connection with the swift's plastic instability condition for localized necking. Using the flow rule and the experimental parameter, the forming limit curve for the various sheet metals the shape of the yield curve (m-value) and relative density, have been obtained. It has been particularly found that the FLC curve is affected by the relative density (R-value) and yield criterion constant (m-value).

- **Dr. K.R. Subramanian-** "Gender Grouping in Speech Recognition using Statistical Metrics of Pitch Strength", European International Journal of Scientific Research, ISSN-1450-216X (Peer Reviewed) http://www.europeanjournalofscientificresearch.com/, Vol. 61(4), Page No. 524-537, Oct 2011.

Abstract:

Gender grouping is one of the most important processes in speech recognition. Generally gender grouping is done by considering some parameters in the speech. Among them the most important parameter is frequency. Normally the frequency of females is higher than that of the males. By considering this condition the gender grouping is done. In some males the frequency is very high and in some female the frequency is very low. In such situation we didn't get the exact result. So, here we propose gender grouping method which considers three features and uses the Euclidean distance method to calculate the distance between the features. For that

first a common threshold value is calculated from the training dataset and during testing if we give a set of speech signals as input. The output we obtained is grouping of group signals based on gender. The implementation result shows the performance of our proposed technique in gender grouping.

- **Dr. K.R. Subramanian-** "Classification of Speech Signal Based on gender a hybrid approach using Nero Fuzzy Systems", Springer Journals - International Journal of Speech Technology, Berlin, Germany(Peer reviewed) www.springer.com/journal/10772, ISSN:10712-011-9118-0, Vol.14, Page No. 377-391,Oct 2011.

Abstract:

One of the most important processes is gender classification. Generally gender classification is done by considering pitch as feature. In general the pitch value of female is higher than the male. In some cases, pitch value of male is higher and female is low, in that cases this classification will not obtain the extract result. By considering this drawback here proposed a gender classification method which considers three features and uses fuzzy logic and neural network to identify the given speech signal belongs to which gender. For training fuzzy and neural network, training dataset is generated by considering the above three features. After completion of training, a speech signal is given input, fuzzy and neural networks gives an output, for that mean value is taken and this value gives the speech signal belongs to which gender. The result shows the performance of our method in gender classification.

- **Dr. K.R. Subramanian-** "Performance Analysis of gender Clustering and classification using three features", International Journal of Computer Science and Engineering Chennai, (Peer Reviewed) http://www.ijcset.com/, ISSN-095-3397 Vol. 4(3), Page No. 442-457, March 2012.

Abstract:

In speech processing, gender clustering and classification plays a major role. In both gender clustering and classification, selecting the feature is an important process and the often utilized feature for gender clustering and classification in speech processing is pitch. The pitch value of a male speech differs much from that of a female speech. Normally, there is considerable

frequency vale difference between the male and female. But, in some cases the frequency of male is almost equal to female or frequency of female is equal to male. In such situation, it is difficult to identify the exact gender. By considering this drawback, here three features namely: energy entropy, zero crossing rate and short time energy are used for indentifying the gender. Gender clustering and classification of speech signals are estimated using the aforementioned three features. Here, the gender clustering is computed using Euclidean distance, Mahalanobis distance, Manhattan distance & Bhattacharya Distance method and the gender classification method is computed using combined fuzzy logic and neural network, neuro fuzzy and support vector machine and its performance are analyzed.

- **Dr. M. Manimekalai-** "Prediction of Secondary Structure of Using Neutral Networks and Machine Learning Techniques", CIIT International Journal of Biometric and Bioinformatics, (Peer Reviewed) www.ciitresearch.org, ISSN: 0974-9675, Vol. 4(1), Page No. 47 - 51, and Jan 2012.

Abstract:

One of the most significant problems in biomedical research today is the prediction of protein structure of knowledge of the primary amino acid sequence. Secondary prediction (SSP) is a very typical problem in the field of bio-informatics. Prediction of secondary structure of proteins can be done from the protein structure. In the protein structure prediction , the amino acid sequence of the protein, the so-called primary structure, can be easily determined from the sequence on the Gene that code for it. This primary structure exclusively determines in structure in its native environments. Thus primary structure plays a key role in understanding the function of the protein. Majority of the previous research have ignored the influence of residue conformational preference on structure prediction of protein. The primary focus of this research is to investigate a variety of approaches for employing ANN and machine techniques in order to predict the secondary structure of protein in soybeans.

Department of Mathematics

- **Dr. S. Vidhyalakshmi** -"Numerical Solution of Magneto-Hydrodynamic and Hematocrit on Blood Flow", Journal of Scientific Transaction in Environment and Technovation, Vol. V(2), Page No. 86-91, Oct-Dec 2011.

Abstract:

Fluid flow analysis of blood flow through a tapered artery with mild stenosis in the presence of magnetic field is investigated. In this paper the effect of magnetic field and shape of stenosis on the flow rate and presence gradient is studied. The blood flowing through artery is considered to be Newtonian. This model is consistent with the principles are Ferro hydrodynamic and magneto hydrodynamic (MHD). The result indicates that rise in systolic pressure and fall in diastolic pressure are very harmful are weak heart.

- **Dr. S. Vidhyalakshmi & Dr. M. A. Gopalan- "**On the Ternary Quadratic Diophantine Equation $x^2 + 3y^2 = 7z^2$", Diophantus J.Math, (Peer Reviewed), ISSN 2278-1714, Vol. 1 (1), 2012, Page No 51-57.

Abstract:

The ternary Quadratic Diophantine Equation given by $x^2 + 3y^2 = 7z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special and special polygonal are exhibited.

- **Dr. S. Vidhyalakshmi & DR. M.A. Goapalan** - "Pythagorean Triplets of Gaussian Integers", Diophantus J.Math, (Peer Reviewed), ISSN 2278-1714, Vol. I(1),2012 ,Page No. 47-50

Abstract:

We exhibit a method of generating Pythagorean Triplets of Gaussian Integers. A few interesting relations between Pythagorean numbers and special number patterns are presented.

- **Dr. S. Vidhyalakshmi** - "Observation on $y^2 = 12x^2 - 3$ ", Bessel J.Maths, (Peer Reviewed) ISSN 2278-1714, Vol.2 (3), 2012, Page No. 53-158.

Abstract:

The ternary Quadratic Diophantine Equation given by $y^2 = 12x^2 - 3$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. S. Vidhyalakshmi** - "Observations on $x^2 + y^2 = 17z^2$", Diaphanous J.Math, (Peer Reviewed), ISSN 2278-1714, Vol.1 (2), 2012, Page No. 77-83.

Abstract:

The ternary Quadratic Diophantine Equation given by $x^2 + y^2 = 17z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. S. Vidhyalakshmi** & **Dr. M.A. Gopalan**- "On ternary Quadratic Equation$x^2 + xy + y^2 = 12z^2$", Diaphanous J.Math, (Peer Reviewed) ISSN 2278-1714, Vol.1 (2), 2012, Page No. 69-76.

Abstract:

The ternary Quadratic Diophantine Equation given by $x^2 + xy + y^2 = 12z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. S. Vidhyalakshmi** & **Dr. M.A. Gopalan** - "On ternary Quadratic Equation $x^2 - xy + y^2 = 19z^2$", Diophantus J.Math, (Peer Reviewed) Vol.1 (2), 2012, Page No. 85-91.

Abstract:

The ternary quadratic Diophantine equation given $x^2 - xy + y^2 = 19z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. M.A. Gopalan** "Quadratic Equation In 5 Unknowns x4-y4= (z+w)p3", Bessel J.Maths, ISSN 2278-1714, Vol. I(1), Page No. 49-57, Dec 2011.

Abstract:

We present various different patterns of non-zero integral solutions for the Bi-quadratic equations with five unknowns x4-y4=(z+w)p3, A few interesting relation among the solutions, special polygonal, pyramidal Auto

- **Dr. M.A. Gopalan** "On the Homogeneous Ternary Quadratic Diophantine Equation x2+(2k+1)y2 =(k+1)2z2", Bessel J.Maths, ISSN 2278-1714, Vol. II(2), 2012, Page No. 107-110.

Abstract:

The homogeneous ternary quadratic equation is studied for its non-trivial distinct integral solutions. A few interesting properties among the non-trivial integral solution of the ternary quadratic equation x2+(2k+1)y2 =(k+1)2z2 are presented. By employing the integral solutions of the equation under consideration a few interesting relations among polygonal numbers. Pyramidal numbers observed.

- **Dr. M.A. Gopalan** -"Two special Diophantine Triples", Diophantus J.Math, ISSN 2278-1714, Vol. I(1), Page No. 23-27, 2011.

Abstract:

In this paper we present two special Diophantine triples in two sections (A) and (B). In section (A) we find Diophantine triples $(2k(k-1), 2k(k+1), 8k^2+1)$ in which the product of any two when added with their sum is a perfect square. Section (B) evaluates th ediophantine triples involving Jacobsthal-Lucas numbers.

- **Dr. M.A. Gopalan**-"Some Non-Extendable P-5 sets", Diophantus J.Math, ISSN 2278-1714, Vol. I(1), Page No. 19-22, 2012.

Abstract:

We construct some non-extendable P_{-5}, Diophantine triple with property D(-5) and exhibited few theorems on P_{-5} sets.

- **Dr. M.A. Gopalan**- "On the Heptic Diophantine Equation with Five Unknowns x4-y4=(x2-y2)z5", Diophantus J.Math, ISSN 2278-1714, Vol. 9(5), Page No. 371-375, 2012.

Abstract:

We obtain three different patterns of non-zero integral solutions of the Heptic Diophantine equation with five unknowns x4-y4=(x2-y2)z5 by employing suitable transformations. A few interesting relations between the relations and special polygonal numbers are presented.

- **Dr. M.A. Gopalan**- "On the Transcendental Equation x+√x+Y+√y=Z+√z", Diophantus J.Math, ISSN 2278-1714, Vol. I(1), Page No. 9-14, 2012.

Abstract:

The Transcendental equation with 3 unknowns given by x+√x+Y+√y=Z+√z is analyzed for its non-zero integral solutions. A few interesting relations between the solutions, Special polygonal numbers and pyramidal numbers are presented.

- **Dr. M.A. Gopalan**- "Observation On x2=48α2+y2", Archimedes J.Math, ISSN 2278-1714, Vol. II(1), Page No. 1-5, 2012.

Abstract:

The binary quadratic equation given by x2=48α2+y2 is considered. Employing its non-zero integral solutions, relations among a few special polygonal numbers are determined.

- **Dr. M.A. Gopalan**- "Integral Solutions of y2=(k2+1)x2-1", Antarctica J. Math, ISSN 2278-1714, Vol. 8(6), Page No. 465-468, 2011.

Abstract:

We search for non-zero integer pairs (x,y) satisfying the quadratic Diophantine equation of y2=(k2+1)x2-1. The recurrence relations for the solutions are presented. A few interesting relations among the solution are given.

- **Dr. M.A. Gopalan**- "Integral Solution of Ternary Quadratic Equation x2+2y2=z2+22α+1", Bessel J.Maths, ISSN 2278-1714, Vol. II (2), Page No. 93-100, 2012.

Abstract:

We obtain non-trivial integral solutions for the ternary quadratic equation x2+2y2=z2+22α+1. A few interesting relation among the solutions are presented.

- **Dr. M.A. Gopalan**- "On the Biquadratic Equation x2+y4+(x+y)z3=2(k2+3)2nw4", Bessel J.Maths, Vol II(2), ISSN 2278-1714, Page No. 87-91, 2012.

Abstract:

We obtain non-trivial integral solutions for the bi-quadratic equations with four unknowns x2+y4+(x+y)z3=2(k2+3)2nw4. A few interesting relation for each patterns among the solutions are presented.

- **Dr. M.A. Gopalan**- "Observation On y2=3x2-2z2", Antarctica J. Math, ISSN 2278-1714, Vol. 9(4), Page No. 359-362, 2012.

Abstract:

Infinitely many Pythagorean triangles, where in each of which the difference between the circumradius and in radius a nasty number, are obtained. A few interesting properties between the sides, in radius, circumradius and special polygonal, Pyramidal numbers are obtained.

- **Dr. M.A. Gopalan**- "Observation on the Ternary Quadratic Equation y2=3x2+z2", Bessel J.Maths, ISSN 2278-1714, Vol. II (2), Page No. 101-105, 2012.

Abstract:

A few interesting properties among the non-trivial integral solution of the ternary quadratic equation y2=3x2+z2 are presented. By employing the integral solution of the equation under consideration a few interesting relations among polygonal numbers, pyramidal numbers and four dimensional figurate numbers are observed. Also a typical Pythagorean triangle (x,y,z) satisfying the relations $\sqrt{x^2+y^2}-2\sqrt{z^2-x^2}=w^2$ is obtained.

- **Dr. M.A. Gopalan**- "Pythogorean Triples of Gaussian Integers", Diophantus J.Math, ISSN 2278-1714, Vol. I(1), Page No. 47-50, 2012.

Abstract:

We exhibit a method of generating Pythagorean Triples of Gaussian Integers. A few interesting relations between Pythagorean numbers and special number patterns are presented.

- **Dr. M.A. Gopalan**- "Gaussian Integer Solution for a special equation y2+x2=2z2", Advances in Theoretical and Applied Mathematics, ISSN 0973-4554, Vol. 7(4), Page No. 329-335, 2012.

Abstract:

The ternary quadratic equation y2+x2=2z2, has been analyzed for Gaussian integer solutions. Six different sets of solutions in Gaussian integers are presented. A few interesting relations between the solutions and special two-dimensional figurate number are illustrated.

- **Dr. M.A. Goapalan**- "Integral Points on the Hyperbola 2x2-3y2=5", American Journal of Applied Mathematics and Mathematical Science, **ISSN:** 2278 - 9707, Vol. I(1), Page No. 1-5, 2012.

Abstract:

This paper concern with the problem of obtaining non-zero distinct integral points on the hyperbola. Two different sets of solutions satisfying the hyperbola under consideration are presented. Knowing a solution, a general formula for generating a sequence of solutions are presented.

- **Dr. M.A. Goapalan**- "A new perspective Pythagorean triangle", Diophantus J.Math, ISSN 2278-1714, Vol. I(1), Page No. 1-7, 2012.

Abstract:

Infinitely many Pythagorean triangles, each of which satisfying the relation Hypotenuse-4 area/perimeter as a quadratic integer, are generated by employing the non-zero integral solutions of the ternary quadratic equation given by $x^2 - 2xy + 3y^2 = z^4$. A few relation

connecting the sides of the triangles, it is a in radius, circumradius and radii of the describing circle are presented.

- **Dr. M.A. Goapalan**- "Diophantine Quadruples for Fibonacci and Lucas numbers with propertyD(4), Diaphanous J.Math, ISSN 2278-1714, Vol. I(1), Page No. 15-18, 2012.

Abstract:

In this paper the Diophantine Quadruples Consisting Fibonacci and Lucas numbers with property D(4) is constructed.

- **Dr. M.A. Goapalan**- "Observations on y2=2x2+z2", Archimedes J.Math, ISSN 2278-1714, Vol. II(1), Page No. 7-15, 2012.

Abstract:

The ternary quadratic equation given y2=2x2+z2 is considered. Employing its non-zero integral solutions, relations among a few special polygonal numbers are determined.

- **Dr. M.A. Goapalan** & **Dr. M.A. Gopalan** - "Observations on $x^2 + y^2 = 17z^2$ ", Diophantus J.Math, ISSN 2278-1714, Vol.1 (2), Page No. 77-83, 2012.

Abstract:

The ternary Quadratic Diophantine Equation given b$x^2 + y^2 = 17z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. M.A. Goapalan**- "On ternary Quadratic Equation x2+xy+y2=12z2", Diophantus J.Math, ISSN 2278-1714, Vol.1 (2), Page No. 69-76, 2012.

Abstract:

The ternary Quadratic Diophantine Equation given by $x^2 + xy + y^2 = 12z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. M.A. Goapalan**- "On ternary Quadratic Equation $x^2 + xy + y^2 = 19z^2$ ", Diophantus J.Math, ISSN 2278-1714, Vol.1 (2), Page No. 85-91, 2012.

Abstract:

The ternary Quadratic Diophantine Equation given $x^2 + xy + y^2 = 19z^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

- **Dr. M.A. Goapalan**- "Observation on the Transcendental Equation $z = \sqrt[2]{x} + \sqrt[3]{kx + y^2}$ ", Diophantus. J Math, ISSN 2278-1714, Vol. 1(2), Page No 59-68, 2012.

Abstract:

The transcendental Equation $z = \sqrt[2]{x} + \sqrt[3]{kx + y^2}$ is studied for its non-zero integral solutions when k is a positive square and a square free integer in two sections. In each section two different patterns of integral solutions are presented. Some relations among the solutions and special polygonal numbers are also given.

- **Dr. S. Vidhyalakshmi & Dr. M.A. Goapalan**- Integral solution of the non-homogeneous sextic equation with four unknowns $xy + z^2 = w^6$, " Impact Journal Of Science and Technology, ISSN: 0973-8290, Vol. 691), Page No. 47-52, 2012.

Abstract:

The Diophantine equation of degree six with four unknowns given by $xy + z^2 = w^6$ has been analyzed for its non-zero integral solutions. A few interesting relations among the solutions are given.

- **Dr. S. Vidhyalakshmi , Dr. M.A. Goapalan , Ms. T. R. Usha Rani & Ms. S. Mallika-** "Observation on y2=12x2-3", Bessel J.Maths, ISSN 2278-1714, Vol.2 (3), Page No. 153-158, 2012.

Abstract:

The binary quadratic equation y2=12x2-3 is considered and a few interesting properties among the solutions are presented. Employing the integral solutions of the equation under consideration, a few patterns of Pythagorean triangles and rectangles are observed.

- **Dr. S. Vidhyalakshmi , Dr. M.A. Goapalan , Ms. K. Lakshmi & Ms. G. Sumathi** "Integral Points on the Hyperbola $x^2 + 6xy + y^2 + 40x + 8y + 40 = 0$", Bessel J.Maths, (Peer Reviewed) Vol.2 (3), 2012, Page No. 159-164.

Abstract:

The binary quadratic equation $x^2 + 6xy + y^2 + 40x + 8y + 40 = 0$ is studied for its non-trivial integral solutions. The recurrence relations satisfied by the solutions x and y are given. A few interesting properties among the solutions are presented.

- **Dr. S. Vidhyalakshmi , Dr. M.A. Goapalan , & Ms. G. Sumathi** "Lattice Points on the Hyperboloid of One Sheet $4z^2 = 2x^2 + 3y^2 - 4$", Diophantus J.Math, (Peer Reviewed) ISSN 2278-1714, Vol.1 (2), Page No. 109-115, 2012.

Abstract:

Infinitely many non-zero integral points on the hyperboloid of one sheet given by $4z^2 = 2x^2 + 3y^2 - 4$ are obtained. A few interesting relations among the solutions are presented.

Department of Microbiology

- **Ms. S. Bhuvaneswari-** "Comparative studies of Antimicrobial activity of pigment produced by Pseudomonas Fluorescence's & Pseudomonas aeroginosa", Journal of Ecotoxicology and Environmental Monitoring, ISSN: 0971-0965, http://www.connectjournals.com/, Vol. 21(3), Page No. 215-218, 2011.

Abstract:

An attempt has been made exoerimentally to test the antimicrobial efficiency of Pseudomonas fluorescence and P. aeroginosa against various human pathogens. The pigments of both the organisms were tested on bacteria and fungi. Among these the pigment fluorescin shows high antifungal activity and effective against Asperillus Flavous, A. oryzae, mucor, pencillium notatum and verticillium sp. The pigment pycocyanin was showed maximum antibacterial activity and effective against Salmonella typhi, enterobacter aerogens, protens mirabilis, Bacillus megaterium and B. subtilis. TH epigment extracts can be used as chemotherapeutic agents.

P.G & Research Department of Social Work

- **Ms. N. Sherrin Sophia-** "The Emotional Aftermath of Plastic Surgery", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No.196-200, Mar 2012.

Abstract:

Plastic surgery deals with the repair, reconstruction, or replacement of physical defects of from or function involving the skin, musculoskeletal system, craniomaxillofacial structures, hand, extremities, breast and trunk, external genitalia or cosmetic enhancement of these area o f the body… the plastic surgeon uses cosmetic surgical principles both to improve overall appearance and to optimize the outcome of reconstructive procedures. Special knowledge and skill in the design and surgery of graft, flaps, free tissue transfer and replantation is necessary. Cosmetic procedures are rapidly increasing among Indian men and Women. Despite the tremendous growth of this therapeutic field, little information is available regarding the effects of cosmetic procedures on patient's quality of life. Physicians in this discipline traditionally focus on minimizing complications or side effects and optimizing the physical outcome. However, to date, there has been no standardized method of quantifying patients' satisfaction and therefore, treatment success with cosmetic procedures. In addition, limited data are available regarding the effects of cosmetics procedures on individuals self esteem, confidence, relationships and acceptance by others. The purpose of this study is to discuss the emotional aftermath of cosmetic surgeries in individuals.

- **Ms. N. Sherrin Sophia & Ms. K. Shenbagam-** "Psychosocial Problems of the Aged Women-A Study ", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No. 159, March 2012.

Abstract:

Aging is not only a personal concern for the individuals and his or her family, it is also a major social problem. Present modern civilization has changed the respectful atmosphere and ancient age. Materialism has deeply penetrated in our society that has made old aged isolated

and lonely. Change of attitude is due to too much of complexity of life for younger generation. The problem requires a major move toward broad social planning for the aged and a considerable extension of the range of services at the individual and community levels. The paper indents to understand the psychosocial problems, reasons for joining the old age home, opinion about old age homes and health problems among the aged women. Census method was adopted to collect data from 50 respondents by using an interview schedule. The study revealed that 40% of the respondents reported that conflict between their family where the reasons to join the old age home. (52%) reported that they do not wish to reunite with their family. Vast majority (82%) of the respondents reported that old age homes should be encouraged has it would provide shelter to the neglected aged women. The other findings and specific social work intervention strategies will e discussed in the paper.

- **Ms. N. Sherrin Sophia & Ms. K. shenbagam -** "Psychosocial Impact in Persons with Lower Limp Amputations Related to Diabetes", Bharathidasan Journal of Science and Technology, ISSN: 0974-424X, Vol. 3(1), Page No. 45-47, 2012.

Abstract:

The main aim of the study was the analyzed to the psychosocial and social impact of the amputees. The study was conducted with thirty two patients underwent lower limp amputation by applying census method. The findings show that vast majority of the respondents were under grief and all most them had experienced phantom limp phenomena.

- **Ms. N. Sherrin Sophia & Ms. K. Shenbagam-** "A Study on 108 Emergency Services", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No.176-180, March 2012.

Abstract:

Ambulance forms the important category of commercial vehicle. The sole purpose of this vehicle is to carry the sick and injured persons. Modern-day ambulances are typically large automobiles on a van or light truck chassis with a maximum road weight up 7.5 tonnes. They are categorized into various sub-categories such as Emergency ambulance, patients Transport

Ambulance, Response Unit and Charity Ambulance depending on their functional use. Millions of emergencies and in a loss life because the needy cannot afford ambulance services. In order to remove the barriers of affordability that prevent those poorer sections of the state from accessing ambulance services, India requires a better emergency medical service to meet the growing number of emergencies. What exist currently in the form of fragmented services across the country falls way short of meeting the requirement?. Thus the researcher as made an attempt to study the Importance of 108 emergency services in Tamilnadu.

- **Ms. K. Deepa Ms. N. Hemalatha**- "A Study on Human Resource Information System", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No. 277-285, March 2012.

Abstract:

Management requires complete reliable information to solve any problem and exercise effective control by taking a timely decision. The complete reliable information is received by proper collection, handling and providing the right information to the right person in right time. The proper human resource information system it not only reduces the risk of wrong as an effective controlling techniques. Mangers at every level require important information with speed, brevity and economy in order to discharge their functions effectively. Due to the complexity of business and industrial operations, Human Resource Information System get more importance. Government regulations are also to create the need of supply of more reliable information accurately within short span of time. This clearly shows Human Resources executives are entering into an "Information Age". A Human Resource Information system is a system that lets you keep track of all your employees and information about them. It is usually done in a database or, more often, in a series of inter-related database. The researcher collected the data from 70 respondents. The researcher used Descriptive Research design. Questionnaire was prepared by the researcher to collect the dates'. The researcher used statistical test ti find out and analyze the data. Major findings will be discussed in full paper.

- **Ms. E. Deepa-** "A Study On Organizational Climate", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No. 273-275, March 2012.

Abstract:

Organizational Climate is the "culture" of an organization. It is a set of properties of the work environment, perceived directly or indirectly by the employees, that is assumed to be a major force in influencing employee behavior. The routines are the events and practices of an organization while rewards pertain to what behavior get acknowledged and supported. Researcher adopted Descriptive research design. Data was collected from 100 employees from different departments. The researcher has selected the Cluster sampling from probability sample design. The data for this study has been collected through primary source. The primary data for this study was the help of the questionnaire. The secondary data was collected from the library and computer. The major findings will be discussed in the full paper.

- **Ms. P.Selvi-** "A Study on Problem faced by Women with Uterus Cancer" in G.V.N Hospital, Trichy District", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No. 206 March 2012.

Abstract:

Uterus cancer is a major public health problem worldwide which is primarily an environmental disease with 90 percentages of cases due to life style and environmental factors. In India every year 80000 new cases are identified and it is becoming a growing cause of concern. As countries becoming more industrialized, people are more prone to depression, Unhealthy habits, poor hygiene. Uterus cancer refers to any disorder cell growth that brings about the invasion and destruction surrounding healthy tissue by the abnormal cells. A uterus cancer cell arises from normal cells whose nature has been permanently chanced. They undergo multiplication than healthy body cells are not subject to normal control by nervures and hormones. The present study was conducted at GVN hospital in Trichy. The researcher collected the data from 50 respondents. The researcher used descriptive design. The first part of the interview schedule contained personal data, socio economic condition psychosocial problems,

and their physical problems, and their physical problems. The researcher used statistical test to find out and analyze the data. More than 76% of the respondents belonged to the aged group of 45 years, vast majority 80% is married, and nearly half of the respondents have high level of depression. Counseling is given to uterus cancer patients. Some rehabilitation measures to the cancer patients.

- **Ms. P.Selvi-** "A Study on Stress faced by Women Advocates in Trichy District", Recent Development and Emerging Trends in Social Work Research, ISBN: 978-81-8424 – 757 – 2, Page No. 108-113, March 2012.

Abstract:

A study of sex bias in the federal court system in the District has found that female lawyers are treated fairly by judges but face bias b harassment in their work outside the courthouse. In a survey of about 1,700 male and female lawyers who practice in the federal court here, almost 17 % of the women reported " unwanted sexual advances" from clients. About 10% said they had been target of advances from colleagues, superiors or opposing counsel. Much of the behavior occurs in conferences or at depositions, where most pretrial work is done, the survey found. Female lawyers reported that male lawyers cut them off them make derogatory or "suggestive". The researcher carried out the study with objective of major factors finding out the stress faced by the women's advocates in the Trichy District. The researcher is interested in finding out the major factors that determine the stress. The researcher carried out the study wit descriptive the research design in her study. The data was collected through both primary and secondary data resources. The instrument used for collecting the data is stress scale. Three objectives are framed for this analysis. The statistical tools applied for this analysis are Chi-Square and Test. More than 50% of the respondents were facing stress.

AREAS FOR RESEARCH

COMPUTER SCIENCE

- *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*

MICROBIOLOGY

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

BIOCHEMISTRY

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

TAMIL

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

MATHEMATICS

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

MANAGEMENT STUDIES

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

SOCIAL WORK

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