SHRIMATI INDIRA GANDHI COLLEGE

(A UNIT OF NATIONAL COLLEGE COUNCIL)

(Nationally Accredited at 'A' Grade (3rd Cycle) by NAAC)

Tiruchirappalli-620 002.

SIGARIA

2020 - 2021

CONTENT

DEPARTMENT OF BIOCHEMISTRY

Department Of Bio Chemistry

1. **Ms.V.Suganya,** "Liposome Encapsulated Astaxanthin Altered Biochemical Profile in Diethynitrosamine Induced Hepato Carcinoma on Swiss Albino Mice" International journal of Pharamaceutical Sciences and Drug Research, UGC care group, Impact Factor:6.79, www.ijpr,org, ISSN:0975-248X, CODEN(USA), VOL12, ISSUE 4, PAGE NO:344-352. 2020

Abstract

Cancer is a disease in which a group of abnormal cells grow uncontrollably by disregarding the normal rules of cell division. Across several cancers, Hepatocellular carcinoma (HCC) is one of the most aggressive cancers in worldwide. It is held responsible for up to 1 million deaths globally per annum. HCC is an inflammation-related cancer, as a chronic inflammatory state is necessary for cancer appearance. In this study, the drug astaxanthin and encapsulated astaxanthin was tested against HCC. Mice were divided into 7 groups; Group I: control, Group II: DEN induced, Group III: DEN + 50 mg/kg astaxanthin, Group IV: DEN + 100 mg/kg astaxanthin, Group V: DEN + 50 mg/kg encapsulated astaxanthin, Group VI: DEN + 100 mg/kg encapsulated astaxanthin, Group VII: DEN + 10 mg/kg sorafenib. Regular diet was given. Body weight, Food intake, water intake was noted. Other biochemical parameters such as ALP, AST, Albumin, proteins and TNF-α was determined. Finally, the liver was removed from each mice of different group by sacrificing them and histopathology was done. *In vivo* evaluation in mice models showed significant antitumor activities by both encapsulated and non-encapsulated astaxanthin at 100 mg/kg as compared with the control, DEN induced group and positive drug sorafenib. This research suggested that encapsulated astaxanthin can also be used as chemotherapeutic agent for the treatment of Hepatocellular carcinoma (HCC).

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2. **Dr.T.Karpagam, Dr.B.Varalakshmi, Dr.A.Shanmuga Priya, Ms.P.Anitha, Ms.S.Gomathy, Ms.V.Suganya, Dr.C.Sumathy,** "A Review On Chaotic COVID-19 Infection: Pathophysiology and Treatment Insight", Journal of remedies, https://www.jnronline.com/ojs/index.php/about/article/view/215
Scopus, Impact Factor:0.53, ISSN:2320-3358(e), ISSN:0972-5547(p), Vol-21, Issue-4, Page 50-59, 2020

Abstract

The whole world is now under enormous stress of COVID-19 a pandemic, caused by novel SARS-CoV-2 a highly contagious disease. The World Health Organization coordinates to manage those impacts caused by COVID-19 and declared it as a global public health emergency. This article reviews on the chaotic global pandemic outbreak of Coronavirus infection (SARS-CoV-2)/ (COVID-19). Itnal so highlights on the source of infection, mechanism of infection, route of transmission, clinical manifestation, pathophysiology preventive measures, and treatment available in both allopathic and indigenous medicine, to render awareness on this new infectious disease.

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3. **Dr.T.Karpagam, Dr.B.Varalakshmi, Dr.A.Shanmuga Priya, Ms.S.Gomathy,** "Anti-Oxidant Evaluation and Molecular Docking Studies of Phytocompoundfrom Madhucalongifoliaas Potential Thymidylate Synthase Inhibitor, Journal of remedies, https://www.jnronline.com/ojs/index.php/about/article/view/357
Scopus, pub med, UGC Care group II, Web of Science, Impact factor: 0.53 ISSN:2320-3358(e), ISSN:0972-5547(p), Vol-21, No.6, Page:77-85, 2020

Abstract

Best alternative for cancer treatment is medicinal plants with numerous pharmacological properties which is used in many countries around the world. The present study was focussedto implement docking analysis of some phytocompounds present in *Madhucalongifolia* for anticancer action on thymidylate synthase to analyse potency of phytocompound. *Madhucalongifolia* leaves were dried and powdered. The powder was extracted with ethanol and water. In order to know the antioxidant potential of plant extract, phytochemical analysis followed by DPPH scavanging assay was done. The highest antioxidant activity was observed in ethanolic extract and therefore, this extract was chosen for further stuides. The phytocompounds were functionally analysed by FTIR and GC-MS analysis. The GC-MS analysis determines the existance of various compounds in *Madhucalongifolia*ethanolicextracts. 5,5',8,8'-Tetrahydroxy-3,3'-dimethyl-2,2'-binaphthalene-1,1',4,4'-tetrone ($C_{22}H_{14}O_8$) was one of the compound used for docking studies. Binding energy valueshowedthe synthesized compound selectivity towards ATP-binding pocket of Thymidylate synthase, the enzyme target in cancer chemotherapy. The computational methodology such as molecular docking analysis is efficient in finding effective drugs made of natural origin against these diseases. Its evident that *Madhucalongifolia* contains various phytocomponents and considered as a plant of medicinal value against cancer.

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4. **Dr.T.Karpagam, Dr.B.Varalakshmi,** "COVID_19 associated thromboembolism: Causing the respiratory", International Journal of Research in Pharamaceutical Sciences, https://doi.org/10.26452/ijrps.v11iSPL1.3624 Scopus, Impact Factor:0.60, www. Pharmascope.org, ISSN: 0975-7538, Vol 11, Issue (1), Page No 1303-1306, 2020.

Abstract

Coronavirus disease 2019 (COVID-19) has recently emerged in China and caused a global pandemic. WHO announced that COVID-19 could be characterised as a pandemic due to unprecedented swift global spread and severity of the outbreak. When infected with the virus, patients usually have a fever, dry cough, dyspnoea, myalgia, headache and sometimes diarrhoea. Updates on molecular characteristics of SARS-CoV-2, treatment and epidemiological control are more important to help optimise the disease control measures Thrombotic complication is an essential issue in patients infected with COVID-19. Concomitant venous thromboembolism (VTE) seems to be a potential cause of unexplained deaths in COVID-19 cases. Thrombocytopenia, elevated D-dimer, prolonged prothrombin time, and disseminated intravascular coagulation are the clinical findings related to such condition. In China, anticoagulant therapy in severe COVID-19 was suggested for improving outcome. Studies showed the urgency for VTE diagnostic strategies. Aetiology may be multifactorial, and therefore, we review the available literature relevant to acute venous thromboembolism associated with novel coronavirus infection.

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5. **Dr.B.Varalakshmi**, "Antibacterail, Antioxidant and Anticoagulant Efficasy of C.verum Mediated Silver Nanoparticles", An International Journal of Life Sciences, . http://dx.doi.org/10.5958/2319-1198.2020.00014.7, ICI-Google Scholar, Impact Factor:4.3, ISSN: 2320-964X, Vol 9, Issue, and Page No: 214-220, September-December 2020.

Abstract

The Objective of this work is to synthesis silver nanoparticles using Cinnamon bark extract as the reducing agent and its antibacterial, anticoagulation and antioxidant activity was studied. The green silver nanoparticles were monodisphere, spherical and 70nm in diameter. A positive antibacterial activity against Pseudomonas, pseudomonas aeruginosa was found in both methanol extract and silver nanoparticles. The maximum relative inhibitory zone is 94% as observed in AgNp. The FRAP antioxidant activity of cinnamon was 400µM at 100µg/ml and 700µM by green AgNp. In vitro anti-coagulant activity of AgNp was confirmed at 10µg/ml. The AgNPs exhibited profound anti-coagulant activity as compared to

heparin. Even though several anticoagulants have been repoted from biological sources, only a few nanoparticles have been reported as anti-coagulant and thrombolytic activities. Further characterization of the capping agent and stability of AgNp are needed to find out the efficiency of AgNp as anticoagulant

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6. **Ms.S.Gomathi, Dr.A.Shanmugapriya, Dr.B.Varalakshmi, Dr.T.Karpagam, Ms.P.Anitha,** "Antibacterial action of pedilanthus tithymaloides leaves extract and FTIR phytochemical Finger printing", Research Journal of Pharmacy and Technology, www.rjptonline.org , Scopus, Impact Factor:1.203, ISSN NO:0974-3618 (print), 0974-360X(Online), Volume 14, Issue 04, Page No:01-05, April 2021.

Abstract

Medical plants are used to produce new antimicrobial drugs due to increased bacterial resistance of antibiotics. The plant pedilanthus tithymaloides said to possesses the wide range of medicinal properties which were confirmed through previous studies. The present study was to determine its antimicrobial activity using its leaves extract and also analysing whether their phytochemical constituents are responsible for its anti-micobial activities. Pedilanthus tithymaloides leaves extract was obtained and tested for antimicrobial activities and analysed for the presence of chemical constituents by preliminary phytochemical analysis and by FTIR analysis. The antimicrobial susceptibility studies were conducted agaist them (-) bacteria such as Escherichia coli, Pseudomonas aeruginosa and gram (+) bacteria such as Staphylococcus aureus. The current result supports the medicinal use of the leaf which acts an antimicrobial agent. However further studies are needed to isolate the active compound from the leaf and to study the antibacterial activity of that active compound.

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7. **Dr.A.Shanmuga Priya, Dr.T.Karpagam, Dr.B.Varalakshmi, Dr.S.Gomathi, Ms.P.Anitha,** "Screening of Fungi for Production and purification of Omega-3 Fatty acid", Journal of Medical Pharamceutical and Allied sciences, https://www.jmpas.com , UGC Care List II, Scopus, Impact Factor:5.153, ISSN NO:2320-7418, Volume 10, Issue 4, Page No:3089-3093, July-August 2021.

Abstract

Omega fatty acids, major importance in the prevention or treatment of a range of human diseases or disorders related with inflammation. These fatty acids are found in transgenic plants, fungi, and animals and even in microorganisms but in

major amounts can be extracted from fatty fish. However, due to bioaccumulation of fat-soluble vitamins and high levels of saturated and omega-6 fatty acids, they may have deleterious health effects. It becomes necessary to search for novel and rich sources containing omega-3 fatty acids and one of the alternatives include fungi. The present study deals with production and purification of omega-3 fatty acids from Trichoderma viride and Aspergillus niger. In the present study, the main objective was to explore the beneficial effects of fungi for the maximum lipid production through optimized conditions and the results clearly showed that Trichoderma viride was the significantly highest lipid producer, with lipid production at initial pH 6.0 and incubation temperature 40℃


DEPARTMENT OF
BUSINESS
ADMINISTRATION

Department Of Business Administration

1. **Dr.R.Anitha Santhana Mary,** "A Study on consumer Preference Towards Mobile Phones In Tiruchirappalli Towns", Journal of Interdisciplinary Cycle Research, http://jicrjournal.com , Impact Factor-6.2, UGC care group , ISSN NO:0022-1945, Page No:2113-2125, Vol 13, Issue 5, May-21

Abstract

This paper explores the factor influencing consumer preference towards mobile and investigates the reason that trigger the purchase of new ones. The brand loyalty of consumes is explored and the influence of gender on choice of purchase is examined. The preferences of consumers can, to a larger extent, impact the technology push driven mobile phone industry in creating new models adding innovative features to satisfy them. Modern day smart phones have made one of the largest impacts on human lives. The mobile phone dominate most of modern human in every moment of life, which nowadays is becoming a part of basic needs of a person as means of communication across the global during the latest fifteen years.

DEPARTMENT OF COMPUTER SCIENCE, INFORMATION TECHNOLOGY AND COMPUTER APPLICATIONS

Department of Computer Science Information Technology & Applications

1. **Dr.M.Gomathi,** "Optimal Feature Selection for Speech Emotion Recognition using Enhanced Cat Swarm Optimization Algorithm" – International Journal of Speech Technology, https://doi.org/10.1007/s10772-020-09776-x, Scopus, Impact Factor:1.457 ISSN NO:1381-2416, Vol.24, No.1, Page No:155-163, November2020

Abstract

Human interactions involve emotional cues that can be used to interpret the emotion expressed by the speaker. As the vocal emotions vary from one speaker to another, there is a chance of misinterpretation. To determine the emotion expressed by the speaker, a speech emotion recognizer can be utilized. It is known that speech expresses the emotional states of humans along with the syntax and semantic content of linguistic sentences. Therefore, human emotion recognition using speech signaling is possible. Speech emotion recognition is a crucial and challenging task in which the feature extraction plays a prominent role in its performance. Determining emotional states in speech signals is a very challenging area for many reasons. The first issue of all speech emotion systems is the selection of the best features, which is powerful enough to distinguish various emotions. The presence of different language, pronunciation, sentences, style, and speakers adds additional difficulty since these characteristics include pitch and energy that directly alters most of the features extracted. Redundant features and high computational cost make emotion recognition an undesirable task. Instead of focusing on the words, the vocal changes and communicative pressure on the words should be taken as the primary consideration. The Enhanced Cat Swarm Optimization (ECSO) algorithm for feature extraction has been proposed to address these issues and it is not used in any existing speech emotion recognition approaches. The proposed approach achieves excellent performance in terms of accuracy, recognition rate, sensitivity, and specificity.

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2. **Ms.P.Ananthi,** "Counter measures to enhance the deception capability of honeypot through network service finerprinting techniques", International journal of Research and Analytical Reviews (IJRAR), www.ijrar.org , UGC Approved, Google Scholar, Impact Factor : 7.17, ISSN NO:2348-1269, Volume 07, Issue 03, Page No:639-645, August 2020.

Abstract

Honeypot is meant to trap attackers far away from the pc resources the attackers try to compromise. Also, honeypot tracks attacker's activities and helps researchers learn about their attack patterns. However, honeypot also can be identified by attackers using various fingerprinting methods. In this research, threat modeling is used to identify potential threats that reveal its existence which made honeypot ineffective. Various countermeasures are used in this research and the proposed countermeasures have proved effective to enhance the deception capabilities of the Honeypot have tested.

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3. **Ms.R.Indra,** "Certificate Authentication using Block chain Technology", International journal of Research and Analytical Reviews (IJRAR), www.ijrar.org , UGC Approved, Google Scholar, Impact Factor : 7.17, E-ISSN 2348-1269, P- ISSN 2349-5138, Volume 07, Issue 02, Page No:647-654, June 2020.

Abstract

As education becomes more diversified, decentralized and democratized, we still need to maintain reputation, trust in certification and proof of learning. Nowadays everyone has to show his/her Document and Certificate to any other person for some purpose/job. After seeing the document 3rd person cannot validate the originality of the certificate. The same thing is applied for a land registry, PAN card, and Aadhar card verification. The increased focus on relevance and employability may also push us in this direction, as we also need more transparency. We can solve this problem or get trust by using blockchain technology. The digital currency Bitcoin is probably the best-known application of blockchain and is even better known than the Blockchain technology. The blockchain is a chain of blocks and blocks are immutable in a distributed environment, it which storage devices are not all connected to a common processor. It is a database of records/public ledger of all transactions /digital events that have been performed and information is shared within participating parties. Each entry in the system is verified by common consent of the participants in the system. Once information is entered in blockchain it cannot be erased. It could provide a system that is transparent and secure. Blocks (Ordered Records) are added to blockchain with timestamp and a link to a previous block. Verifying a diploma/certificate today takes a good amount of time and requires human resources or human resources to request confirmation of details from universities. A possible solution is Blockchain. Blockchain for education may be a new concept. By using this technology, No need for a central authority to validate certificates. Your college won't have to send you a copy of your transcript and prove to anyone you have your degree We are building a platform that will be open, accessible and one piece

of software at a time and students can get Blockchain-based educational certifications. Blockchainbased educational certifications are the digital certificate and registered on the Ethereum Blockchain that will be cryptographically signed and tamper proof). Another person can view the certificate online, and no 3rd party validation is required for these digital certificates.

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4. **Dr.S.Hemalatha,** "Secure and Energy- Efficient Disjoint Multipath Routing Protocol", International journal of Research and Analytical Reviews (IJRAR), www.ijrar.org , UGC Approved , Google Scholar, Impact Factor : 7.17, E-ISSN 2348-1269, P- ISSN 2349-5138, Volume 07, Issue 02, page No:655-660, June 2020.

Abstract

Recent advances in micro electromechanical systems (MEMS) technology have boosted the deployment of wireless sensor networks (WSNs). Limited by the energy storage capability of sensor nodes, it is crucial to jointly consider security and energy efficiency in data collections of WSNs. The disjointmultipath routing scheme with secret sharing is widely recognized as one of the effective routing stragies to ensure the safety of information. This kind of scheme transforms each packet into several shares to enhance the security of transmission. However, in many-to-one WSNs, shares have hogh probability to traverse through the same link and to be intercepted by adversaries. In this paper, we formulate the secret-sharing-based multipath routing problem as an optimization problem. Our objectives aims at maximizing both network security and Energy-efficient Disjoint Route (SEDR) is proposed. Based on the secret-sharing algorithm, the SEDR scheme depressively and randomly delivers shares all over the network in the first two phases and then transmits these shares to the sink node. Both theoretical and simulation results demonstrate that our proposed scheme has significant improvement in network security under both scenarios of single and multiple black holes without reducing the nerwork lifetime.

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5. **Ms.V.Vetriselvi,** "Entropy Based Topsis Multi-Criteria Decision making for intrusion Detection system", Journal of the Maharaja Sayajirao University of Baroda, https://www.msubaroda.ac.in , UGC Care, Impact Factor:2.5, ESSN :0025-0422, Volume-54, No.2 (VI), Page No:19-27, 2020.

Abstract

Intrusion detection systems (IDS) have to procedure heaps of packets with numerous features, which interrupt the finding of anomalies. Features selection and sampling may be utilized to minimize processing time and hence reducing intrusion

detection time. This paper is aim to evaluate the feature selection technique based on the Techinque for order of preference by similarity to Ideal solutions (TOPSIS). An enhanced Entropy-based TOPSIS method is developed to suggest the one or more choices among alternatives, having many attributes. The five feature selection techiques are used to reduce the size of the network traffic dataset. The classification techiniques like Artificial Neural Network, Naïve Bayes and support Vector Machine are used to calculate the computation time and intrusion detection time. The proposed TOPSIS method is used to analyze the performance of the feature selection to enhance the intrusion detection.

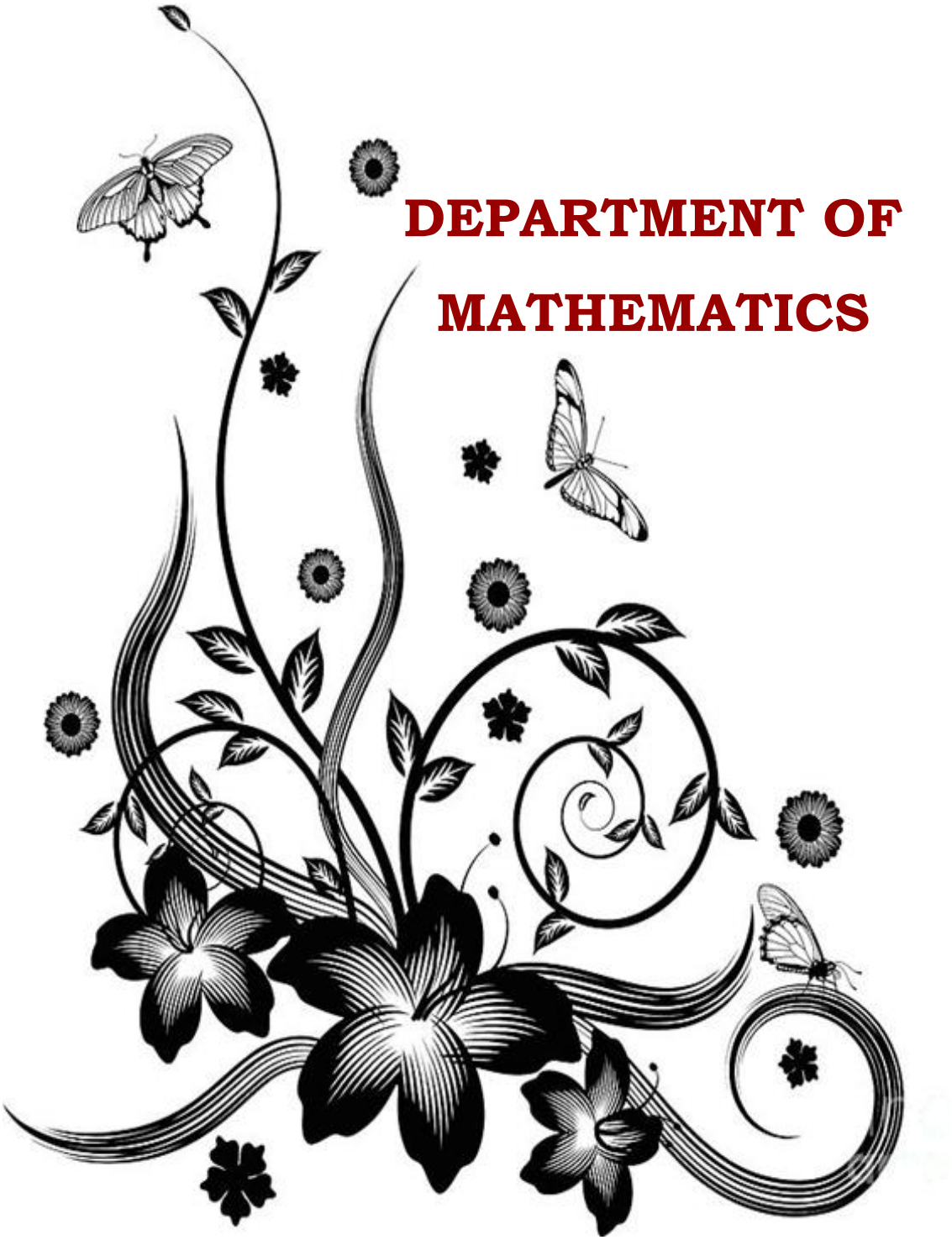
DEPARTMENT OF ENGLISH

Department of English

1. **Ms.N.Ramamani,** "Transforming technical education towards industry needs", Journal of Shanghai Jiotong University, https://shjtdxxb-e.cn/ , UGC Care Group II , Impact Factor:6.2, ISSN:1007-1172, Volume 16, Issue 7, Page No:846-856, July 2020.

Abstract

Technical education plays a pivotal role in the socioeconomic circumstances of a nation. There is a huge talent crunch prevails in the global arena. In order to acquire and impart skills to bridge the void, a sound professional training caters to skilled human resources. In India, only 12% of the engineering graduates come out with flying colors while compared to the mammoth graduates from over 4500 engineering colleges. It indicates lack of employability skills rather than lack of opportunity. The contemporary Indian educational systems tests the memorazing skills of the students than pratcial knowledge of application. Hence there is a discrepancy which flanks the educational system as it doesn't cater to the needs of industries. The measures such as Memorandum of Understanding (MoU) signed with industries, industrial training for faculties and students, effective regulation and monitoring by statutory organization like the All India Council for Technical Education (AICTE) and the University Grants Commission (UGC) might help to improve the quality of the graduates by making them employable for the economic augmentation of our nation.


DEPARTMENT OF
MATHEMATICS

Department Of Mathematics

1. **Dr.N.Umamaheswari,** "Stochastic Modeling For Using Infinte-Allele Markov Branching Process of Hpa Axis Functioning Combined Dex/Crh Test", International Research Journal of Education And Technology, www.irjweb.com , Google Scholar , Impact Factor:7.429, ISSN: 2581-7795, Vol 1, Issue 05, and Page 95-105, 2020.

   Abstract

   We investigated functioning of the Hypothalamic – Pituitary – adrenal (HPA) axis in 12 young people at ultra-high risk for developing psychosis, using the combined dexamethasone corticotrophin releasing hormone (DEX/CRH) test. The focus is the frequency spectrum of the Infinite-Allele Markov branching process, namely the proportion having a given number of copies at a specified time point.

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2. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "A Search on the Integer Solution to Ternary Quadratic Diophantine Equation $z^2=55x^2+y^2$", International Research Journal of Modernization Engineering Technology and Science, www.irjmets.com , Google Scholar, Impact Factor:5.354, e-ISSN-2582-5206, Vol 3, Issue 1, Page No:1145-1150, Jan 2021.

   Abstract

   The homogeneous ternary quadratic Diophantine equation given by $z^2 =55x^2+y^2$ is analysed for its non-zero distinct integer solution through different methods. A few interesting properties between the solution are presented. Also, formula for generating sequence of integer solutions based on the given solutions are presented.

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3. **Dr.J.Shanthi, Dr.M.A.Gopalan**, "On The Homogeneous Cone $z^2=53x^2+y^2$", International Research Journal Of Education And Technology, www.irjweb.com , Google Scholar, Impact Factor:7.429, ISSN 2581-7795,Vol 1, Issue 4 Page No 46-54, 2021.

   Abstract

   The homogeneous ternary quadratic equation given by $z^2=53x^2+y^2$ is analysed for its non-zero distinct integer solution through different methods. A few interesting properties between the solution are presented. Also, formulae for genereating sequence of integer solutions based on the given solutions are presented.

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4. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "Formulation of Sequences of Diophantine 3- Tuples through the pair (3,6)", EPRA- International Journal of Multidisciplinary Research (IJMR), https://doi.org/10.36713/epra2013 ,Peer Reviewed Journal, Impact Factor:7.032, ISSN NO:2455-3662, Volume 6, Issue 7, Page No:241-257, July 2020.

Abstract

This paper aims at formulatin sequence of Diophantine 3-tuples through the pair (3,6)

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5. **Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "A Study On The Pell Like Equation $5x^2 - 8y^2 = -48$, International Journal of All Research Education &Scientific Methods (IJARESM), www.ijaresm.com , UGC Care, Impact Factor:7.429, ISSN NO: 2455-6211, Volume 9, Issue 4, Page No:2179-2190, April 2021.

Abstract

The hyperbola represented by the binary quadratic equation $5x^2-8y^2=-48$ is analyzed for finding its non-zero distinct integer solutions. A few interesting relations among its solutions are presented. Also, knowing an integral solution of the given hyperbola, integer solutions for other choices of hyperbolas and parabolas are presented. The formulation of second order Ramanujan Numbers with base numbers as real integers is illustrated.

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6. **Dr.S.Vidhyalakshmi, Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** " A Classification of Rectangles in Connection with Two Fascinating Number Patterns", International Journal of Advanced Science and Technology , http://sersc.org/journals/index.php/IJAST/article/view/11897 , Scopus, Impact Factor:0.48, Volume 29, Issue 8s, Page No:1231-1235, 2020.

Abstract

This paper has two sections I and II. ***Section I*** exhibits rectangles, where, in each rectangle, the area added with its semi-perimeter is represented either by a Gopa-Vidh number or by a Gopa-Shan number. ***Section II*** exhibits rectangles, where, in each rectangle, the area minus its semi-perimeter is represented either by a Gopa-Vidh number or by a Gopa- Shan number. The total number of primitive and non-primitive rectangles is also given.

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7. **Dr.K.Meena, Dr.S.Vidhyalakshmi,** "A Search on the integer solutions to Ternary Quadratic Diophantine Equation $z^2=63x+y^2$" International Research Journal of Education and Technology, www.irjweb.com , Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 01, Issue 05, Page No:107-116, January 2021.

Abstract

The homogeneous ternary quadratic diophantine equation given by $\mathbf{z^2=63x+y^2}$ is analyzed for its non-zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. Also, formula for generating sequence of integer solutions based on the given solutions are presented.

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8. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "A Study on the Pell-Like Equation $3x^2-8y^2=-20$", Juni Kyat Journals, http://junikhyatjornal.in, UGC Care, Impact Factor:6.625, ISSN NO:2278-4632, Vol-11, Issue-02 No.01, Page No:35-43, February 2021.

Abstract

The hyperbola represented by the binary quadratic equation $3x^2-8y^2=-20$ is analyzed for finding its non-zero distinct integer solutions. A few interesting relation among its solution are presented. Also, knowing an integral solution of the given hyperbola, integer solutions for other choices of hyperbolas and parabolas are presented. The formulation of second order Ramanujan Numbers with base numbers as real integers and Gaussian integers is illustrated and also the sequences of Diophantine 3-tuples are exhibited.

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9. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "A Study on the positive Pell Equation $y^2=42x^2+7$" , International Research Journal of Education and Technology, www.irjweb.com , Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 01, Issue 05, Page No:107-118, January 2021.

Abstract

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the positive pell equation represented by the binary quadratic equation $y^2=42x^2+7$. A few interesting relations among the solutions are presented. Further, by considering suitable linear combinations among the solutions of the considered hyperbola, the other choices of hyperbolas, parabolas, pythagorian triangle, 2^{nd} order Ramanujan numbers, sequence of diophantine 3-tuples with suitable property are presented.

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10. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "A Study on the Hyperbola $y^2=14x^2+1$", EPRA International journal of Multidisciplinary Research (IJMR), https://doi.org/10.36713/epra2013 , Peer Reviewed journal, Impact Factor:7.032, ISSN NO:2455-3662, Volume 6, Issue 12, Page No:122-126, December 2020.

Abstract

The binary quadratic equation $y^2=14x^2+1$is considered and a few interesting properties among the solutions are presented. Employing the integral solutions of the equation under consideration, a few remarkable observations are illustrated.

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11. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "On The Transcendental Equation $\sqrt[3]{x^2+y^2}+\sqrt[2]{mx+ny}=10z^3$ International journal of Research Engineering Research and Development (IJRERD) , www.ijrerd.com , Peer Reviewed journal, Impact Factor:4.61, ISSN NO:2455-8761, Volume 05, Issue 06, Page No:08-11, June 2020.

Abstract

The transcendental equation with five unknowns involving surds represented by the diophantine equation $\sqrt[3]{x^2+y^2}+\sqrt[2]{mx+ny}=10z^3$ is analysed for its patterns of non-zero distinct solutions.

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12. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "On Formulating sequences of Diophantine 3-Tuples through Matrix method", International Research Journal of Modernization in Engineering and Technology and Science, www.ijrmets.com, Google Scholar, Impact factor:5.354, ISSN NO: 2582-5208, Volume 02, Issue 08, Page No:964-966, August 2020.

Abstract

This paper illustrates the process of obtaining sequences of Diophantine 3-tuples with property $D(k^2+8k-2)$ through matrix method

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13. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "On Non-Homogeneous cubic Equation with Four unknowns $x^2+y^2+4(35z^2-4-35w^2)=6xyz$", Bio science Bio technology Research Communication, http://dx.doi.org/10.21786/bbrc/14.5/24 , Web of Science, Impact Factor:5.90, ISSN NO: 0974-6455, Volume 14, Issue 05, Page No:126-129, March 2021.

Abstract

This paper is devoted to obtain non-zero distinct integer solutions to non-homogeneous cubic equation with four unknowns represented by $x^2+y^2+4(35z^2-4-35w^2)=6xyz$ along with few observations.

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14. **Dr.S.Vidhyalakshmi, Dr.J.Shanthi, Dr.M.A.Gopalan,** "A Search on the integer solutions of Pell-like equation $ax^2-(a-1)y^2=a,a>1$" International Journal of Advanced Scientific Research, www.allscientificjournal.com , Google Scholar, Impact Factor: RJIF 5.32, ISSN NO:2456-0421, Volume 5, Issue 2, Page No:29-34, February 2020.

Abstract

This paper deals with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous binary quadratic equation represented by the Pell-like equation $ax^2-(a-1)y^2=a$, $a>1$, Different sets of integer solutions are presented. For illustration, the integer solutions to the above equation when a=11 are presented. The construction of second order Ramanujan Numbers is illustrated. Employing the solutions, a few relations among special polygonal numbers are obtained

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15. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "A Search on Non-Distinct Integer Solutions to Cubic Diophantine Equation with four unknowns $x^2-xy+y^2+4w^2=8z^3$, International Research Journal of Education and Technology, www.irjweb.com , Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 2 Issue 01, Page No:27-32, May 2021.

Abstact

The non-homogeneous cubic diophantine equation with four unknowns given by $x^2-xy+y^2+4w^2=8z^3$ is analyzed for its non-zero non-distinct integer solutions through applying the linear transformtions .

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16. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** " A Search on the Integer solutions of cubic Diophantine Equations with four unknowns $x^2+y^2+4(35z^2-4-w^2)=6xyz$", International Journal of Grid and Distributed Computing, http://sersc.org Web Of Science, Impact Factor:0.368, ISSN NO:2005-4262, Volume 13, No. 2, Page No:2581-2585, 2021

Abstract

The cubic Diophantine equation with four unknowns given by $x^2+y^2+4(35z^2-4-w^2)=6xyz$ is analyzed for its non-zero distinct integer solutions, through applying the linear transformations x=2X+12z, y=4 and employing the most cited solutions of the well-known Pythagorean equation.

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17. **Dr.J.Shanthi, Ms.V.Bahavathi, Dr.M.A.Gopalan,** "On the Homogeneous Cone $z^2=34x^2+y^2$", International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor:5.536, ISSN NO:2582-7421, Volume 2, Issue4, Page No:518-523, 2021.

Abstract

The homogeneous ternary quadratic equation given by $z^2=34x^2+y^2$ is analysed for its non-zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. Also, formulae for generating sequence of integer solutions based on the given solution are presented.

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18. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "A Search for integral solutions to the ternary bi-quadratic equation $x^4+x^3y+x^2y^2+xy^3+y^4=(x+y)^2+1+z^2$", Turkish Journal of computer and Mathematical Education, https://doi.org/10.17762/turcomat.v12i7.2608 , Scopus, Google Scholar, Impact Factor:0.33, ISSN NO:1309-4653, Volume 12, Issue 7, Page No:484-495, 2021.

Abstract

This paper deals with the problem of obtaining non-zero distinct integer solutions to the ternary bi-quadratic equation $x^4+x^3y+x^2y^2+xy^3+y^4=(x+y)^2+1+z^2$. A few interesting relations among the solution are presented. Given on integer solution of the equation under consideration, integer solutions for various choices of hyperbola and parabolas are exhibited. The formulation of second order Ramanujan Numbers with base numbers as real integers and Gaussian integers is illustrated and also the sequence ofDiophantine 3-tuples are exhibited.

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19. **Dr.J.Shanthi, Ms.V.Bahavathi, Dr.M.A.Gopalan,** "On the Positive Pellian Equation $y^2=35x^2+29$", International Journal of Enhanced Research in science , Technology and Engineering, http://www.erpublications.com , Scopus, Web of Science, Impact Factor:7.957, ISSN NO:2319-7463, Volume 10, Issue 4, Page No:40-48, April 2021.

Abstract

The binary quadratic equation represented by the Positive Pellian $y^2=35x^2+29$is analyzed for its distinct integer solutions. A few interesting relations among the solutions are given. Further, employing the solutions of the above hyperbola, we have obtained solutions of other choices of hyperbola and parabola. The formulation of second order Ramanujan numbers is illustrated.

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20. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "On the Transcendental Equation $\sqrt[2]{y^2+2x^2}+\sqrt[3]{Y^2+X^2}=35z^3$", International Research journal of Modernization in Engineering Technology and science, www.irjmets.com, Google Scholar, Impact Factor:5.354, ISSN NO:2582-5208, Volume 2, Issue08, Page No:824-827, August-2020.

Abstract

The transcendental equation with five unknowns involving surds represented by the diophantine equation $\sqrt[2]{y^2+2x^2}+\sqrt[3]{Y^2+X^2}=35z^3$ is analysed for its patterns for non-zero distinct integer solutions.

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21. **Dr.S.Mallika,** "On the Homogeneous quadratic Diophantine equation with three unknowns $7x^2+y^2=448z^2$", International Research Journal of Education and Technology, www.irjweb.com, Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 1 Issue 06, Page No:19-29, March 2021.

Abstract

The ternary quadratic equation given by $7x^2+y^2=448z^2$ is considered and searched for its many different integer solution. Five different choices of integer solution of the above equations are presented. A few interesting relations between the solutions and special polygonal numbers are presented

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22. **Dr.S.Mallika,** "On the homogeneous Ternary quadratic equation $x^2+10xy+32y^2=8z^2$", International Research journal of Education and Technology, www.irjweb.com , Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 1, Issue 06, Page No:30-40, March 2021.

Abstract

The ternary quadratic equation given by $x^2+10xy+32y^2=8z^2$ is considered and searched for its many different integer solution. Five different choices of integer solution of the above equations are presented. A few interesting relations between the solutions and special polygonal numbers are presented

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23. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "On the Ternary quadratic Diophantine Equation $x^2+3y^2=19z^2$", International Journal of Research publication and reviews, www.ijrpr.com , Google Scholar, Impact Factor:5.536, ISSN NO:2582-7421, Volume 2, Issue 8, Page No:69-76, 2021.

Abstract

The homogeneous ternary quadratic Diophantine equation represented by $x^2+3y^2=19z^2$ is studied for finding its non-zero distinct integer solutions. The formulae for generating sequence of integer solutions based on the given solution are exhibited

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24. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "On Sequences of Diophantine 3-tuples generated through the pair (9,2) each with property D(-2), D(-9), D(-14), D(-17)", International journal of Advanced Scientific Research, www.allscientificjournal.com , Google Scholar, Impact Factor:RJIF 5.32, ISSN NO:2456-0421, Volume 5, Issue 3, Page No:04-08, 2020.

Abstract

The problem of constructing the sets with property that product of any two of its distinct elements is one less than a square has a very long history and such sets have been studied by Diophantus. A set of m distinct positive integers {a1 ,a2 ,a3 ,.....,am} is said to have the property D(n),$n \in Z-\{0\}$ if aiaj + n is a perfect square for all $1 \le i < j \le m$ or $1 \le j < i \le m$ and such a set is called a Diophantine m-tuple with property D(n). Many Mathematicians considered the construction of different formulations of diophantine triples with the property D(n) for any arbitrary integer n [1] and also, for any linear polynomials in n. In this context, one may refer [2, 12] for an extensive review of various problems on diophantine triples. This paper concerns with the construction of sequences of diophantine 3-tuples (a,b, c) such that the product of any two elements of the set added by (-2),(-9),(-14),(-17) in turn is a perfect square

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25. **Dr.K.Meena, Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan,** "On the family of hyperbolas $w^2-6z^2+2aw-12bz^2-6b^2=0$", European journal of Molecular & Clinical Medicine, https://ejmcm.com/ , Scopus, Impact Factor:8.111, ISSN NO:2515-8260, Volume 7, Issue 8, Page No:5255-5259, 2020.

Abstract

The family of hyperbolas represented by the non-homogeneous binary quadratic equation $w^2-6z^2+2aw-12bz^2-6b^2=0$ is considered to obtain its non-zero distinct integer solutions. A few fascinating relations among its solutions are exhibited. Construction of second order Ramanujan numbers and Pythagorean triples are illustrated.

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26. **Dr.M.A.Gopalan, Dr.J.Shanthi, Dr.S.Vidhyalakshmi,** "A Study on the Hyperbola $9x^2-7y^2=8$", International journal of Engineering development and Research, www.ijedr.org , Google Scholar, Impact Factor:7.37, Volume 9, Issue 2, Page No:160-168, 2021.

Abstract

The hyperbola represented by the binary quadratic equation $9x^2-7y^2=8$ is analyzed for finding its non-zero distinct integer solutions. A few interesting relations among its solutions are presented. Also, knowing an integral solution of the given hyperbola, integer solutions for other choices of hyperbolas and parabolas are presented. The formulation of second order Ramanujan Numbers with base numbers as real integers and Gaussian integers is illustrated.

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27. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "On the non-homogeneous cubic Diophantine equation with four unknowns $x^2+y^2+4((2k^2-2k)^2z^2-4-w^2)=(2k^2-2k+1)xyz$", International journal of mathematical and computing techiques, www.mathsjournal.org , Google Scholar, Impact Factor:3.963, ISSN NO:2455-7994, Volume 4, Issue 3, Page No:01-05, June 2021.

Abstract

The non-homogeneous cubic diophantine equation with four unknowns given by $x^2+y^2+4((2k^2-2k)^2z^2-4-w^2)=(2k^2-2k+1)xyz$ is analyzed for its non-zero distinct integer solutions through applying the linear transformtions and reducing it to pythagorean equation.

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28. **Dr.S.Mallika,** "A Search on the Integer solutions to Ternary quadratic Diophantine Equation", International journal of advance in Engineering and management (IJAEM), www.ijaem.net , Google Scholar, Impact Factor:7.429, ISSN NO:2395-5252, Volume 3, Issue 3, Page No:1396-1401, March 2021.

Abstract

The homogeneous ternary quadratic diophantine equation given by $z^2=11x^2+y^2$ is analyzed for its non-zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. Also, formula for generating sequence of integer solutions based on the given solutions are presented.

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29. **Dr.S.Mallika,** "On the Homogeneous quadratic Diophantine Equation with three unknowns $4x^2-12xy+21y^2=13z^2$", EPRA-International journal of Multidisciplinary Research (IJMR), https://eprajournals.com/IJMR/ , Peer Reviewed Journal, Impact Factor:7.147, ISSN NO:2455-3662, Volume 7, Issue 3, Page No:98-113, March 2021.

Abstract:

The ternary quadratic equation given by $4x^2-12xy+21y^2=13z^2$ is considered and searched for its many different integer solution. Five different choices of integer solution of the above equations are presented. A few interesting relations between the solutions and special polygonal numbers are presented.

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30. **Dr.S.Mallika,** "On the Homogeneous Ternary quadratic equation $7x^2+3y^2=220z^2$", EPRA-International journal of Multidisciplinary Research (IJMR), https://eprajournals.com/IJMR/ , Peer Reviewed Journal, Impact Factor:7.147, ISSN NO:2455-3662, Volume 7, Issue 3, Page No:81-93, March 2021.

Abstract

The ternary quadratic equation given by $7x^2+3y^2=220z^2$ is considered and searched for its many different integer solutions. Five different choices of integer solution of the above equations are presented. A few interesting relations between the solutions and special polygonal numbers are presented.

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31. **Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "A Study on the pell-like equation $3x^2-8y^2=-20$", Turkish journal of physiotheraphy and Rehabitaion, www.turkjphysiotherrehabil.org , Scopus, Impact Factor:0.14, ISSN NO:2651-4451, e-ISSN NO:2651-446X, Volume 32, Issue 3, Page No:408-418, 2021.

Abstract

The hyperbola represented by the binary quadratic equation $3x^2-8y^2=-20$ is analyzed for finding its non-zero distinct integer solutions. A few interesting relations among its solutions are presented. Also, knowing an integral solution of the given hyperbola, integer solutions for other choices of hyperbolas and parabolas are presented. The formulation of second order Ramanujan Numbers with base numbers as real integers and Gaussian integers is illustrated and also the sequence of Diophantine 3-tuples are exhibited.

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32. Dr.S.Mallika, "Observation on the Ternary quadrartic Diophantine Equation with three unknowns $13x^2+3y^2=640z^2$", International Research journal of Education and Technology www.irjweb.com, Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795,Volume 2 Issue 3, Page No:14-25, July 2021.

Abstract

The ternary quadratic equation given by $13x^2+3y^2=640z^2$ is considered and searched for its many different integer solution. Seven different choices of integer solution of the above equations are presented. A few interesting relations between the solutions and special polynomial numbers are presented.

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33. Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan, " Observations on the Surd Equations

$\sqrt{2z-4} = \sqrt{x+\sqrt{m^2+4y}} + \sqrt{x+\sqrt{m^2+4y}}$ (m≠0)", International journal of Research publication and reviews, www.ijrp.com, Google Scholar, Impact factor:5.536, ISSN NO:2582-7421, Page No:437-441, Volume 2, No.11, November 2021.

Abstract

In this paper, non-zero integer solutions to the surd equation with three unknowns given by $\sqrt{2z-4} = \sqrt{x+\sqrt{m^2+4y}} + \sqrt{x+\sqrt{m^2+4y}}$ (m≠0) are obtained

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34. **Dr.K.Meena, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "Obseravations on the Surd Equations $\sqrt{2z-4}=\sqrt{x+\sqrt{m^2+k)y}}+\sqrt{x-\sqrt{(m^2+k)y}}$ (m≠0)" International Research journal of Education and Technology, www.irjweb.com , Google Scholar , Impact Factor:7.429 ISSN NO:2581-7795, Volume 3, Issue 3, Page No:24-28, November 2021.

Abstract

In this paper, non-zero integer solutions to the surd equation with three unknowns given by $\sqrt{2z-4}=\sqrt{x+\sqrt{m^2+k)y}}+\sqrt{x-\sqrt{(m^2+k)y}}$ (m≠0) are obtained.

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35. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the non-homogeneous ternary cubic equation $3(x^2+y^2)-2xy+4(x+y)+4=51z^3$", International journal of Multidisciplinary Research and Growth Evaluation, www.allmultidisciplinaryjournal.com , Google Scholar, Impact factor:5.93, ISSN NO:2582-7138, Volume 2, Issue 6, November-December 2021.

Abstract

The cubic equation with three unknowns given by $3(x^2+y^2)-2xy+4(x+y)+4=51z^3$ is analysed for its different patterns of non-zero distinct integer solutions

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36. **Dr.S.Vidhyalakshmi, Dr.J.Shanthi, Dr.M.A.Gopalan,** "On Homogeneous cubic equations with four unknowns $x^3-y^3=4(w^3-z^3)+6(x-y)^3$ ", International journal of Enginnering Technology Research and Management, http://ijetrm.com/ , Google Scholar, Impact Factor:5.004, ISSN NO:2456-9348, Volume 5, Issue 7, Page No:180-186, Page No:63-66, July 2021.

Abstract

This paper concerns with the problem of obtaining non-zero distinct integer solutions to homogeneous cubic equation with four unknowns given by $x^3-y^3=4(w^3-z^3)+6(x-y)^3$ A few interesting properties among the solutions are presented.

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37. **Ms.D.Maheshwari, Dr.M.A.Gopalan,** "Observations on the Negative Pell Equation $y^2=10x^2-54$", Turkish Online journal of Qualitative Inquiry (TOJQI), https://tojqi.net , Scopus, ISSN NO:1309-6591, Volume12, Issue 7, Page No:6311-6321, July 2021.

Abstract

The binary quadratic Diophantine equation represented by negative pellian $y^2=10x^2-54$ is analysed for its non-zero distinct solutions. A few interesting relations among the solutions are given. Further, employing the solutions of the above hyperbola, we have obtained some second order Ramanujan numbers and solutions of other choices of hyperbolas, parabolas.

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38. **Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the Homogeneous Cone $z^2=14x^2+y^2$", Turkish Journal of Physiotherapy and Rehabitation, https://www.turkjphysiotherrehabil.org , Scopus, Impact Factor:0.14, ISSN NO:2651-4451, e-ISSN:2651-446X, Volume 32, Issue 3, Page No:456-465, 2021.

Abstract

The non-zero unique integer solutions to the homogeneous Ternary quadratic equation given by $z^2=14x^2+y^2$ are investigated using various methods. There are some intriguing properties among the solutions. There are also formulas for generating an array of integer solutions from a single solution

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39. **Dr.K.Meena, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the Negative Pell Equation $y^2=10x^2-9$", International Journal of Research Publication and Reviews , www.ijrpr.com , Google Scholar, Impact Factor:5.536, ISSN NO:2582-7421, Volume 2, Issue 10, Page No:1131-1143, October 2021.

Abstract

The binary quadratic equation represented by the negative pellian $y^2=10x^2-9$ is analyzed for its distinct integer solutions. A few interesting relations among the solutions are given. Further, employing the solutions of the above hyperbola. We have obtained solutions of other choices of hyperbolas and special Pythagorean triangle.

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40. **Dr.K.Meena, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the Negative Pell Equation $y^2=3x^2-2$", International Research Journal of Education and Technology, www.irjweb.com, Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 3, Issue 2, Page No:1-10, November 2021.

Abstract

The binary quadratic equation represented by the negative pellian $y^2=3x^2-2$ is analyzed for its distinct integer solutions. A few interesting relations among the solutions are also given. Further, employing the solutions of the above hyperbola, we have obtained solutions of other choices of hyperbola, parabola and special Pythagorean triangle.

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41. Dr.K.Meena, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan, "On the Surd Equation $\sqrt{2z} = \sqrt{x} + iy + \sqrt{x} - iy$", International Journal of creative Research Thoughts, www.ijcrt.org , UGC Approved Journal, Impact Factor:7.97, ISSN NO:2320-2882, Volume 9, Issue 11, Page No:183-187, November 2021.

Abstract

In this short paper, non-zero integer distinct integer solutions to the surd equation with three unknowns given by $\sqrt{2z} = \sqrt{x} + iy + \sqrt{x} - iy$ are obtained through the integer solutions of Pythagorean equation.

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42. Dr.K.Meena, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan, "On the Surd Equation $\sqrt{2z} = \sqrt{x} + ay + \sqrt{x} - ay$ (a≠0)", International journal of Modern Developments in Engineering and science, https://www.ijmdes.com , UGC Care, Impact Factor: 3.947, Volume 1, Issue 2, Page No:1-2, November 2021.

Abstract

In this short paper, non-zero integer distinct integer solutions to the surd equation with three unknowns given by $\sqrt{2z} = \sqrt{x} + ay + \sqrt{x} - ay$ (a≠0) are obtained through the integer solutions of Pythagorean equation.

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43. Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Dr.M.A.Gopalan, "A Search on the Integer Solutions of Cubic Diophantine Equation with four unknowns $x^3-y^3=4(w^3-z^3)+3(x-y)^3$", International Journal of Engineering and Science, www.researchinventy.com , Peer Reviewed Journal, Impact Factor:8.843, ISSN NO(e):2278-4721, ISSN NO(p):2319-6483, Volume 10, Issue 8, Page No:13-18, August 2020.

Abstract

The cubic Diophantine equation with four unknowns given by $x^3-y^3=4(w^3-z^3)+3(x-y)^3$ is analyzed for its non-zero distinct integral solutions. Using different choices, integer solutions for the equation under consideration are obtained.

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44. Dr.M.A.Gopalan, "A Study on special Homogeneous cone $z^2=24x^2+y^2$", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology , Page No:1203-1208, August 2021.

Abstract

The homogeneous ternary quadratic equation given by $z^2=24x^2+y^2$ is analysed for its non-zero distinct integer solutions through different methods. Formulation of second order Ramanujan numbers is illustrated. Also, formulae for generating sequence of integer solutions based on the given solution are presented.

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45. Dr.K.Meena, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan, "On Finding integer Solutions to Sextic equation with three unknowns $x^2+y^2=8z^6$", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology, Page No:1146-1149, August 2021

Abstract

This paper deals with the problem of finding non-zero distinct integer solutions to the non-homogeneous ternary sextic equation given by $x^2+y^2=8z^6$. A few interesting relations between the solutions and special numbers are exhibited.

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46. Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan, "On the Homogeneous cone $z^2=14x^2+y^2$", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology, Page No:2151-2156, August 2021

Abstract

The homogeneous ternary quadratic equation given by $z^2=14x^2+y^2$ is analysed for its non-zero distinct integer solutions through different methods. A few interesting properties

between the solutions are presented. Also, formulae for generating sequence of integer solutions based on the given solution are presented.

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47. **Dr.S.Vidhyalakshmi, Ms.T.Mahalakshmi, Ms.V.Anbuvalli, Dr.M.A.Gopalan,** "On Non-Homogeneous quintic equation with five unknowns $3(x^4-y^4)=4(z^2-w^2)T^3$", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology, Page No:1969-1972, August 2021

Abstract

The process of Obtaining non-zero distinct integer solutions to the non-homogeneous quintic equation with five unknowns given by $3(x^4-y^4)=4(z^2-w^2)T^3$ is illustrated.

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48. **Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "A Study on the Pell-like equation $3x^2-8y^2=-20$", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology, Page No:2137-2144, August 2021

Abstract

The hyperbola represent by the binary quadratic equation $3x^2-8y^2=-20$ is analyzed for finding its non-zero distinct integer solutions. A few interesting relations among its solutions are presented. Also, knowing an integral solution of the given hyperbola, integer solutions for other choices of hyperbolas and parabolas are presented. The formulation of second order Ramanujan Numbers with base numbers as real integers and Gaussian integers is illustrated and also the sequence of Diophantine 3-tuples are exhibited.

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49. **Dr.N.Umamaheshwari,** "Stochastic Modelling for using an Extended Reliability Growth Model for Survival Outcomes in Black and White Breast Cancer Patients", International Journal of Advances in Engineering and Management (IJAEM), www.ijaem.net , Google Scholar, Impact Factor:7.429, ISSN NO:2395-5252, Volume 3, Issue 5, Page No:1103-1106, May 2021.

Abstract

To evaluate weight change patterns over time following the diagnosis of breast cancer and to examine the association of postdiagnosis weight change and survival outcomes in Black and White Patients. BMI loss is a strong predictor of worse breast cancer outcomes, growing prevalence of obesity may hide diagnosis of cancer cachexia, which can occur in a large proportion of breast cancer patients long before death. The most widely used traditional reliability growth tracking model andreliability growth projection model are both included as International Standard and National Standard models. These traditional models address reliability growth based on failure modes surfaced during the test. This paper presents and Extended Model that addresses this practical situation and allows for primitive corrective actions

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50. **Dr.S.Vidhyalakshmi, Dr.J.Shanthi, Dr.M.A.Gopalan,** "Observation on the Non-Homogeneous Biquadratic Equation with five unknowns $(x^4-y^4)=10(z+w)p^2$", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology, Page No:1048-1053, August 2021.

Abstract

The purpose of this paper to obtain the non-zero distinct integral solutions of quinary bi-quadratic non-homogeneous Diophantine equation $(x^4-y^4)=10(z+w)p^2$. In this paper, we present some different patterns of integral solutions to the above bi-quadratic Diophantine equation in five variables.

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51. **Dr.S.Vidhyalakshmi,** "A Study on the Hyperbola $y^2=11x^2+1$", International Research Journal of Education and Technology, www.irjweb.com, Google Scholar, Impact Factor:7.429, ISSN NO:2581-7795, Volume 02, Issue 03, July 2021.

Abstract

The binary quadratic equation $y^2=11x^2+1$ considered and a few interesting properties among the solutions are presented. Employing the integral solutions of the equation under consideration, a few remarkable observations are illustrated.

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52. **Dr.J.Shanthi, Dr.M.A.Gopalan.,** "Formulation of Pythagorean Triangle with Property λ(Hypoteneaus*Perimeter-4*Area)=Perimeter*Square integer", Vidyabharati International Interdisciplinary Research Journal, www.viirj.org , UGC Care, Impact Factor:1.469, ISSN

NO:2319-4979, Special Issue on Recent Research Trends in Management, Science and Technology, Page No:1308-1310, August 2021.

Abstract

A search is made to be a Pythagoream triangle with property λ(Hypoteneaus*Perimeter-4*Area) is equal to a square multiple of Perimeter. A few numerical examples are presented.

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53. Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan, "Observation on $2y^2+xy=z^2$", International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor:5.536, ISSN NO:2582-7421,Volume 2, No 12, Page No:356-359, December 2021.

Abstract

Formulae for generating sequence of integer solutions based on the given solution to the ternary homogeneous quadratic Diophantine equation given by $2y^2+xy=z^2$ are exhibited.

DEPARTMENT OF MANAGEMENT STUDIES

Department Of Management Studies

1. **Dr.J.Francis Mary,** " Impact of Covid 19 on cashless Transaction in India", Strad Research, https://doi.org/10.37896/sr7.7/049 UGC Care Web Of Science, Impact Factor:6.1, ISSN NO: 0039-2049, Volume7, Issue7, Page No:467-475, 2020.

Abstract

An analysis had been made to study the impact of COVID -19 on cashless transaction in India. Over the years, our world is facing number of pandemic diseases and the pandemic results in number of down fall across the world. To prevent the spread of COVID19, the practice of social distancing is followed. Due to social distancing number of social activities had been reduced, which in turn affects the economy. This research paper is trying to analyze the impact of Covid -19 on digital payments in Indian Economy.

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2. **Dr.J.Francis Mary,** "Forecasting The Relationship Between Gold price and Domestic Inflation In India", Aegaeum Journal, http://aegaeum.com/ UGC Care, Impact Factor:6.1, ISSN NO:0776-3808, Volume 8, Issue 5, Page No:590-599, 2020

Abstract

This study examines the role of gold price against inflation rate in India. There are many factors that are influencing the gold price. This article restricted to focus on Inflation rate alone. GDP, wages and more importantly prices are affected by inflation which is an important macroeconomic indicator in the economy. The research analysis reveals the association between inflation and Gold in India. Data sets of the period from April 2009 to March 2019 used for the study. Statistical tool used to analyze the study are correlation and regression. The results indicate that in the long run the impact of Inflation rate on Gold is not significant

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3. **Dr.K.G.PrasannaSivagami, Dr.S.Kanimozhi, Dr.J.Saradha, Ms.A.Vidhya, Dr.N.Saratha., "**The Influence of 'Pester Power' on Family Buying Behaviour", Alochana Chakra Journal, https://alochanachakra.in/// , UGC Care, Web Of Science, Impact Factor:6.3, ISSN NO:2231-3990, Volume 9, Issue 6, Page No:1939-1949, June-2020.

Abstract

This study was conducted to measure the influence of pester power of the children on the family buying behaviour and the effects of them over the parent's

decision. The sample size of the study is 200 which include both parents and children. Two different types of questionnaire were prepared, and the data were collected. Convience sampling method was used to collect the data. It is found that the main reasons for the parents to buy the product demanded by the children are ‘quality’, ‘usage of the product’ and their ‘usual routine to get products demanded by the children’. The main reasons for not choosing the product are ‘No need to buy’, ‘Affordability’ and the ‘poor quality’. According to the parents the product categories that are mostly influenced by the children were sncacks, toys and fast food, consumer durable and snacks. Interestingly, the children don’t want their parents to advice them while purchasing and they want them to be included in the buying process.

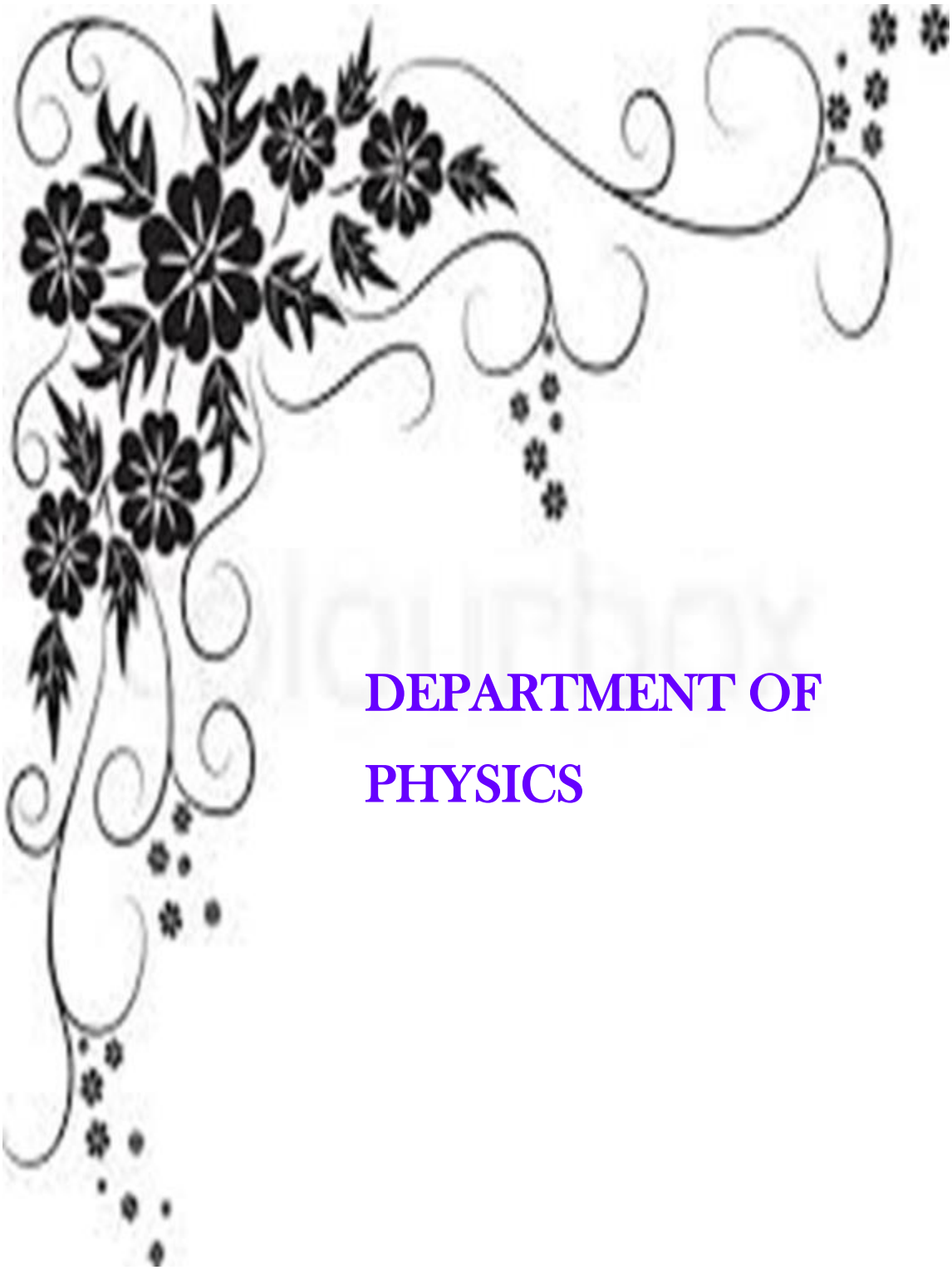
DEPARTMENT OF MICROBIOLOGY

Department Of Microbiology

1. **Ms. K. Chithradevi,** "Enhancement of Pigments production in the green microalga Dunaliella Salina (PSBDU05) under optimized Culture Conditions", Elsevier-Bioresource Technology Reports, https://doi.org/10.1016/j.biteb.2021.100672 , Scopus, Impact Factor:6.795, ISSN No: 2589-014X, Volume 15,Page No 01-08, February 2021.

Abstact

The present study was aimed to assess the influence of various culture conditions (pH -6, 6.5, 7, 7.5, 8; salinity-18, 23, 27, 32, 37 PSU; temperature-23, 26, 30, 32, 34 °C; photoperiod-12:12, 18:6, 20:4, 6:18, 24:00 h L:D; and light intensity-50, 100, 150, 200, 250 µ mol m^2 s^{-1}) on the production of chlorophylls ('a' and 'b'), total carotenoids and β-carotene at laboratory scale. The growth, biomass, and pigments were assessed once in two days for 10 days and the findings revealed that the D. salina can grow at any given salinity but the pigments production rate was varied by one to another. The growth, biomass, chlorophylls 'a', 'b', total carotenoids, and β-carotene were found to be increased to 1.72, 5.24, 1.65, 2.04, 2.18, 3.28 folds higher under optimized conditions (pH -7, salinity-37 PSU, temperature-23 °C, photoperiod-12:12 h L:D, and light intensity-200 µ mol m^2 s^{-1}) when compared to normal conditions.



DEPARTMENT OF PHYSICS

Department Of Physics

1. **Dr. N.Sharmila,** "Crystal Structure and Hirshfeld surface analysis of 1-methyl-4-(2-methyl-10H-benzo[b]thieno[2,3-e][1,4]diazepin-4-yl)piperazin-1-ium 2,5-dihydroxybenzoatepropan-2-olmonosolvate,"Acta Crystallographica Section E Crystallographic communications, https://doi.org/10.1107/s205698902000818x, Scopus, Impact Factor:0.517, ISSN NO:2056-9890, vol 76, part 7, Page No:1168-1172, July 2020.

Abstract

The asymmetric unit of the title salt, C17H21N4S+·C7H5O4−·C3H7OH, consists of an olanzapinium cation, an independent 2,5-dihydroxybenzoate anion and a solvent isopropyl alcohol molecule. The central seven-membered heterocycle is in a boat conformation, while the piperazine ring displays a distorted chair conformation. The dihedral angle between the benzene and thiene rings flanking the diazepine ring is 52.58 (19)°. In the crystal, the anions and cations are connected by N—H···O and O—H···O hydrogen bonds, forming a three-dimensional network.

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2. **Dr. N.Sharmila,** "13-Benzyl-4, 11-dihydroxy-1, 8-diphenyl-2, 9-dithia-13-aza-dispiro[4.1.4.3]tetradecane-6-one", IUCr Journals Crystallography Journals online, https://doi.org/10.1107/s2414314621002108 ,Scopus, Impact Factor:4.769, ISSN NO:2414-3146, Volume 6, Part 2, Page No:01-04, February 2021

Abstract

In the title compound, C30H31NO3S2, the piperidine ring adopts a distorted chair conformation. The thiophene rings have twisted conformations about the C—C bonds. The mean plane of the piperidine ring makes a near orthogonal conformation with the toluene ring. Two of the phenyl rings in the structure are positionally disordered over two sets of sites with occupancies of 0.56 (2)/0.44 (2) and 0.672 (16)/0.328 (16). A region of disordered electron density was corrected for using the SQUEEZE [Spek (2015). Acta Cryst. C71, 9–18] routine in PLATON. The given chemical formula and other crystal data do not take into account the unknown solvent molecule. In the crystal, O—H···O hydrogen bonds are observed along with intramolecular S···H, O···H, C···H and H···H contacts

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3. **Ms. A.Anitha Ezhil Mangaiyar Karasi,** "Influence of Subtrade Temperature on Physical Properties of Nebulized spray Deposited SnSe Thin Films, ECS Journal of Solid State science and Technology, https://iopscience.iop.org/journal/2162-8777 , Scopus, Impact Factor:2.07, ISSN NO:2162-8777, Print ISSN NO:2162-8769, Volume 10, Issue 8, August 2021.

Abstract

Tin-based binary chalcogenide semiconductors SnSe and SnS have created increased interest in the production of earth-abundant and eco-friendly thin film solar cells. Thin films of SnSe were prepared on glass substrates at different temperatures via a nebulized spray pyrolysis technique using Stannous chlroride dihydrate and Se powder. Deposited films were characterized by structural, morphological, compositional, optical, and electrical properties. X-ray diffraction studies confirm the films are of polycrystalline orthorhombic crystal structure irrespective of substrate temperature. Scanning electron microscopy studies revealed uniform deposition with nanometer range grain size. Stoichiometric films of SnSe were observed from energy dispersive analysis by X-ray studies. UV–vis spectroscopy confirmed the formation of good adherence thin films with an average transmittance of ∼70% in the visible region. Optical band gap was in the range of 1.14–1.24. The lower absorption and high transmittance in the visible region observed at lower substrate temperature represented the good optical quality of the crystals with low absorption or scattering losses. The lower electrical resistivity value of 4.84 Ωcm showed that the films are semiconducting. The structural, optical, morphological, and electrical conductivity studies of tin selenide thin films confirmed that the optimum substrate temperatures for depositing SnSe thin films by this NSP technique is 300°

DEPARTMENT OF SOCIAL WORK

Department Of Social Work

1. **Dr.E.Deepa,** "Trends of Human Resource practices in corporate Hospitals", Indian journal of Applied Research, https://www.worldwidejournals.com , UGC Care, Impact Factor:6.03, ISSN NO:2249-555X, Volume 11, Issue 11, Page No:01-02, November 2021.

Abstract

The scope of human resource management is very wide. It is concerned with organizing human resources in such a way as to get the maximum output to the enterprise and to develop the talent of the people at work to the fullest individual capacity securing personnel satisfaction. It includes all activities which help the management in getting the work done by the labor force in the organizations. Thus, HRM considers all problems of the people at work, i.e., economic, social, psychological and political (Suri and Chhabra 2001). Private Hospitals today, small or large, are no more charitable institutes but professional organizations rendering medical service to society. They are, in fact, one of the service industries of present times and since a hospital is an industry, Human Resource Management has gained a significant role to play in its working. Today's private hospitals are run not only by medical people like doctors and nurses but many other paramedical people and non medical people. Effective functioning of a private hospital needs effective human resource management. The universe of the present study includes all the branches of GVN hospitals in urban and west blocks of Tiruchirappalli District. From this sampling frame, the researcher selected 75 employees from each branches of GVN Groups of hospitals by using strati ed proportionate random sampling method. They were included 15 Executives, 15 Nurses, 15 Pharmacies, 15 Laboratories and 15Administrators. 1040 employees are working in these hospitals. The sample taken for analysis consisted of 375 employees they were selected from each branch through stratied proportionate random sampling method.

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2. **Dr.N.Hemalatha,** "A Study on Mental Health problems faced by breast cancer patient in Harshmithra Hospital at Trichy", International journal of Creative Research Thoughts (IJCRT), www.ijctr.org , UGC Care, Impact Factor:7.97, ISSN NO:2320-2882, Volume 9, Issue 9, Page No:c75-c82, September 2021.

Abstract

Breast cancer is a disease in which cells in the breast grow out of control. There are different kinds of breast cancer. The kind of breast cancer depends on which

cells in the breast turn into computer. Breast cancer can begin in different parts of the breast. A breast is made up of three main parts lobules are the glands that produce milk. Isabelle Romeo (1990) Learn penalty for some employ of the spoken contraceptives be joint with a reproduction that accounted for together standby and intrastudy unpredictability. The author also explores substitute unpredictability and model a duration-effect family member flanked by the spoken contraceptive utilizes and breast growth. To study about the socio demographic details of the respondents. To study about the depression among breast cancer patients. There is a significant association between the type of family of the respondents and perception towards overall level of awareness about breast cancer. The universe of the study constitutes Breast cancer patient undertaking treatment in Harshamithra Hospitals, Woraiyur. The present research work purposive sampling techinique is used one day per five or two respondents' were selected from the universe. The patient were undergone treatment from (10.06.2021-30.06.2021). The government can provide free testing methods for needy poor people. Patients who survive a cancer occurring during childhood or young adulthood, treated with radiation are at a very risk of chronic squealer and secondary tumors. The canvasser needs to learn the breast tumor and in addition psychoanalysis their difficulty. Breast growth is a illness of pre menopausal female as a entire, except it's too moving younger age unpaid to original danger issue of existence method change and additional contact to gentleman complete chemical that have become a fraction of our everyday life.

DEPARTMENT OF TAMIL

Department Of Tamil

1. Ms. **மு. தேவகி,** "சீவக சிந்தாமணியில் உவமைகள்", ஜர்னல் ஆஃப் கிளாசிக்கல் தமிழ், ISSN No:2321-0737, Volume 09, No.2, Page No:202-206, April -June 2021

ஆயுவுச்சுருக்கம்

புலவர் தம் புலமைத்திறனை வெளிப்படுத்தும் பலவகை வாயில்களுள் உவமையும் ஒன்று ஒருவர் எடுத்தாளும் உவமை அவர் புலமையை அளந்து அறிவாதற்குச் சிறந்த அளவு கோலாய் உள்ளது. உவமையே பல்வேறு அணிகளுக்குத் தாயாய் உள்ளது

சீவக சிந்தாமணியை கற்போர் நினை வை விட்டு அகலாத உவமைகள் பல உண்டு திருதக்கதேவரின் புலமைத் திறனை வெளிபடுத்தும் அரிய உவமை பல உண்டு . பேசும் மாந்தரின் உள்ள பாங்கினை அறிந்து திருத்தக்கதேவர் அமைத்த உவமைகள் உண்டு . உவமை தேடிப் புகுவார்க்குச் சீவக சிந்தாமணி சுடர் மணிக்களஞ்சியமாகக் காட்சிதரும் .

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2. Ms. **மு. தேவகி,** "சீவக சிந்தாமணியில் உருவகம்", ஜர்னல் ஆஃப் மாடர்ன் தமிழ் ரிசர்ச் **,** UGC Care, ISSN No: 2321-984X, Volume 09, No.2,Page No:733-738, April-June 2021.

ஆயுவுச்சுருக்கம்

கவிஞன் தான் ஒரு பொருளைச் சிறப்பிக்க எண்ணுவான். அப்பொருளே உவமையாகும். வேறொரு பொருளோடு ஒன்றுபடுத்திக் கூறுவான். உவமையின் தன்மையைப் பொருள்மேல் ஏற்றிக் கூறும் இத்தன்மையே உருவகம். உவமானம், உவமேயம் என்னும் இரண்டுக்கும் வேற்றுமை இல்லாமல் இரண்டும் ஒன்றே என்பது தோன்றக் கூறுவதாகும். சீவக சிந்தாமணியில் உருவகத்தை எழில் ஓவியமாகத் தீட்டியுள்ளார் திருத்தக்கதேவர்.

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3. Ms. **மு. தேவகி,** "சீவக சிந்தாமணியில் கலைகள்", ஜர்னல் ஆஃப் மாடர்ன் தமிழ் ரிசர்ச் **,** UGC Care, ISSN No: 2321-984X, Volume 09, No.2, Page No:574-579, April-June 2021.

ஆயுவுச்சுருக்கம்

பண்டையக் கால மக்கள் மனத்துள் தோன்றும் கற்பனைகள் ஒரு கட்டமைப்பை உருவாக்குகின்றன . இக்கட்டமைப்பு பின்னர் கலையாக உருவெடுக்கின்றது. என்பது ஒரு வெளிப்பாடு கலைஞன் தனது உள்ளுணர்வை வெளிக்கொணரும் கருவி தன் மனக்கண்ணில் காணும் காட்சியை மற்றவரும் பார்க்க செய்யும் மார்க்கம் தான் கலை மனித மனங்களிலுள்ள பல்வேறுபட்ட உணர்வுகளைப் பரிமாறிக் கொள்வதற்கு ஏற்ற கலையாக அமைகின்றது. சீவக சிந்தாமணி கலைகள் நிறைந்த காப்பியமாக திருத்தக்கதேவர் வர்ணித்துள்ளார்

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