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SIGARIA

Research Journal
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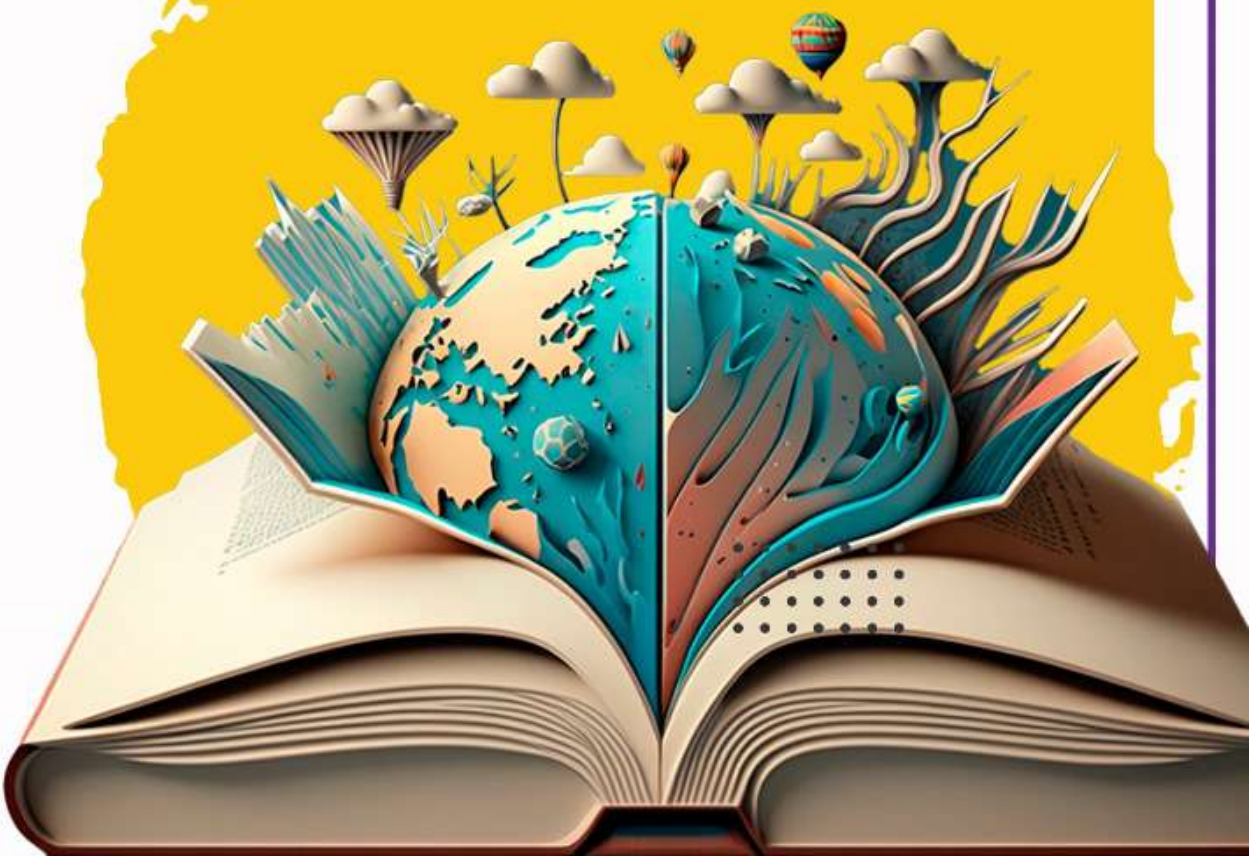

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DEPARTMENT OF BIOCHEMISTRY

1. **Dr. B.Varalakshmi, Dr. T.Karpagam, Dr. A.Shanmugapriya, Dr. V.Suganya, Ms. S.Revathi,** " Vaginitis phyto therapy against vaginal pathogen and molecular identification of isolated vaginal pathogen, Journal of Medical Pharmaceutical and Allied Sciences, www.jmpas.com , UGC Care list, Google Scholar, Impact Factor : 0.30, ISSN 2320-7418, Volume 12, Issue 2,4056, March – April 2023, Page No.5762-5767.

   Abstract:

   Female genital tract infections are major public health problems, with considerable economic consequences. Drugs like metronidazole and clindamycin are unable to control the growth of vaginal infection completely, which requires alternate novel treatment strategies. Some herbal antimicrobial agents are reported to inhibit the growth of vaginal infection. Boerhaavia diffusa and Azadirachta inidica are such herbs with antimicrobial,antioxidant and anti-inflammatory properties. In the present study, vaginal fluid samples from infected patients were collected and cultured using different media. Isolated pathogens were identified using 16S rRNA sequence. Four bacterial pathogens were isolated and identified. The pathogens identified were Aeromonas cavia, Lactobacillus, Staphylococus aureus and Klebsiella pneumomiae. Anti-vaginalis activity of the two herbs were analysed in an isolated pathogen. Maximum zone of inhibition was observed against S. aureus an Aeromonas caviae. The present investigation confirmed that, Boerhaavia diffusa and Azadirachta indica herbal extracts were able to control the vaginal pathogens without any side-effects.

2. **Dr. Suganya Vasudevan,** "Pharmacognosy Determination and in vitro Antioxidant, Anti-Inflammatory, Antimycobacterial Activity of Salt Marsh Plants: Sesuvium portulacastrum and Salicornia brachiate, The Journal of KING ABDULAZIZ UNIVERSITY: MARINE SCIENCES, https://journals.kau.edu.sa , Google Scholar, Impact Factor : 0.15, ISSN 10128840 , Volume 32, Issue 10.4197/Mar.32-1.1, Page No. 1-19.

   Abstract:

Mangroves are trees or large shrubs which have special adaptations to survive in this environment and grow within the intertidal zone in tropical and subtropical regions. Sesuvium portulacastrum (seapurslane) is, herbaceous, perennial, dichotomous, halophyte fast growing plant that belongs to family Aizoaceae. Salicornia brachiate Roxb, is a halophyte, commonly known as sea asparagus widely used as food item in several countries. Then, In vitro studies like, antioxidant, anti-inflammatory and antimycobacterial assay was carried out. The IC_{50} values of Salicornia brachiata and Sesuvium portulacastru was found to be 288.166, 369.451 and 369.764 µg/ml for DPPH scavenging activity. The presence of various primary and secondary metabolites was revealed in the present study. It also showed the better in vitro activities and was the most active plants against MDRTB, MTB and H37RV strain. This study validates the medicinal use of plants in the treatment of TB which have promising effect against MDRTB, MTB and H37RV.

3. **Dr. Manikandan Ramasamy, "**Protective effect of euphorbia thymifolia and Euphorbia hirta against carbon tetrachloride-induced hepatotoxicity in wistar rats, Taylor & Francis Group Drug Development and Industrial Pharmacy, https://doi.org/10.1080/03639045.2022.2122985 , Scopus, Impact Factor: 3.72 , Volume 48, Issue 8- 5 September 2022, Page No. 1 – 11.

Abstract:

Objectives: The present study aims to investigate the protective effect of Euphorbia thymifolia and Euphorbia hirta extracts on in vitro antioxidant activity and in vivo analysis on hepatic marker enzyme levels and histopathological changes in the liver of carbon tetrachloride (CCI_4) induced hepatotoxicity rats.

Materials and Methods: This study includes 42 adult male Albino wistar rats randomly divided into seven treatment groups, including control (basal diet, G1), CCI_4-induced single dose (1.5 ml/kg, i.p.) as the negative control (G2), G1 supplemented with 300 mg/kg of ethanol extract of E. thymifolia (G3), E. hirta (G4), G2 supplemented with 300 mg/kg of ethanol extract of E. thymifolia (G5), E. hirta

(G6), and silymarin (25 mg/kg b.w.) used as a standard drug (G7) for 21-days experimental period.

Results: The ethanolic extracts of E. thymifolia and E. hirta exhibited potential in vitro antioxidant activity in a dose-dependent manner (25 µg/ml, 50 µg/ml, 100 µg/ml, 200 µg/ml and 250 µg/ml). Oxidative stress caused by CCI_4-induced the liver damage, including changes in liver marker enzymes (aspartate aminotransferase, alanine aminotransferase, and alkaline phosphatase), enzymatic (superoxide dismutase and catalase), non-enzymatic antioxidants (lipid peroxides and glutathione) and hepatocellular alternations such as hydropic degeneration, irregular hepatocytes and distention of the vein. Administration of E. thymifolia and E. hirta significantly ($p<0.05$) restored the enzyme activity along with the histology of the liver.

Conclusion: The results from the current study demonstrate that E. thymifolia and E. hirta have the property of restoring hepatic redox capacity and antioxidant activities against CCI_4-induced acute liver damage.

4. **Dr. Manikandan Ramasamy, "**Impact on cardioprotective effect of Psidium guajava leaves extract in streptozotocin-induced Wistar mice with molecular in silico analysis, Quality Assurance and Safety of Crops & Foods, https://www.qascf.com , Scopus , Impact Factor: 1.67, ISSN 1757-837X, Volume 15, Issue 2 – 27 April 20223, Page No.209-221.

Abstract:

Cardiovascular disease (CVD) and its complications have been regarded as the leading cause of morbidity and mortality. The drugs available in the market are effective to treat CVD, but with many adverse reactions. Nowadays, herbal products are the attention of researchers because of their less adverse effects. In this study, the cardioprotective effects of ethanolic leaves extract of Psidium guajava Linn. (Guava) (P. guajava) were evaluated in streptozotocin (STZ)-treated animal models. Mice acquired for the study were divided into five groups, each consisting of six mice. The toxin-induced mice were treated with the ethanolic leaves extract of P. guajava (300 mg/kg body weight [b.w.]). The results were compared to the standard

drug (glibenclamide)-treated mice (3 mg/kg b.w.). The following parameters were considered for further investigations: creatine kinase-muscle brain (CK-MB), creatine kinase (CK), troponin, lysosomal, and mitochondrial enzymes. Then the docking study was accomplished. The levels of cardiac marker enzymes and lysosomal enzymes increased significantly in the toxin-induced mice, while the level of mitochondrial enzyme decreased significantly. During treatment with the ethanolic leaves extract of P. guajava, the levels of all parameters were notably reversed to normal range ($P < 0.05$). Further, in docking analysis, the interaction of compounds, such as alpha-terpineol, cyclopentanecarboxamide, guaiol (a sesquiterpenoid alcohol), 1H-cyclopropanaphthalene, tetracyclotridecan-9-ol, dormin/abscisic acid, and epiglobulol, with the respective protein molecules, evidenced the cardioprotective effect of P. guajava leaves. Hence, it was concluded that the ethanolic leaves extract of P. guajava leaves have a cardioprotective effect.

DEPARTMENT OF CHEMISTRY

1. **Dr. G. Dayana Jeyaleela,** "In vitro Pharmacological Activities of Delonix Elata Extract Mediated Zinc Oxide Nanoparticles", Oriental Journal of Chemistry, http://dx.doi.org/10.13005/ojc/380428, Web of Science, Google Scholar, Publons, ISSN NO:0970-020 X, Volume 38, No. 4, August 30 2022, Page No. 1037-1046.

Abstract:

Bio resource based metal oxide nanoparticles has potential biomedical applications. In recent years lot of research is concentrated on the production of semiconductor ZnO nanoparticles through a greener approach. The present study is focused on the biosynthesis of ZnO nanoparticles from the ethanolic extract of Delonix Elata leaves. The preliminary phytochemical screening analysis was carried out for the ethanolic extract of Delonix Elata leaves. The biosynthesized zinc oxide nanoparticles were characterized using modern analytical techniques such as UV-Visible spectroscopy, Fourier Transform Infra Red Spectroscopy (FTIR), X-Ray Diffraction Analysis (XRD), Scanning Electron Microscopy Analysis (SEM) and Energy Dispersive X-Ray Analysis (EDAX). The antioxidant potential of the synthesized zinc oxide nanoparticles are investigated by DPPH free radical scavenging assay and anti-inflammatory activity by bovine serum denaturation assay. The outcome of the studies clearly showed that the zinc oxide nanoparticles synthesized from the ethanolic extract of Delonix Elata leaves have potential anti-oxidant and anti-inflammatory properties.

2. **Dr. G. Dayana Jeyaleela,** "Inhibitory Effect of Basella alba-Mediated Zinc oxide Nanoparticles against the infection – causing Bacteria", Biomedical and Biotechnology Research Journal (BBRJ), https://www.bmbtrj.org, Scopus, Web of Science, Volume 6, Issue 3, September 2022, Page No. 353-359.

Abstract:

Background: Naturally occurring biomolecules from the plant extract have been identified to play an active role in the formation of any nanoparticles.

Methods: This work aimed to synthesize the nano-sized zinc oxide material (zinc oxide nanoparticles [ZnONPs]) using the 70% ethanolic leaf extract of Basella alba by precipitation method and also studied the antibacterial activity of green-synthesized ZnONPs on infection-causing five bacteria. Synthesized nanomaterials were characterized by the aid of ultraviolet (UV)-visible, Fourier transform infrared spectroscopy, scanning electron microscope, X-ray diffraction, and Energy Dispersive X-ray Analysis (EDAX).

Results: Qualitative analysis and UV results of extract reveal the occurrence of some medicinally important phytomolecules such as flavonoids, terpenoids, phenolic acids, and ascorbic acid. The spherical nature of ZnONPs was observed with an average crystalline size of 28.64 nm. EDAX analysis revealed the elemental compositions in the B. alba-mediated ZnONPs (BA-ZnONPs) which showed zinc in 70.04% and oxygen in 29.96%. BA-ZnONPs were tested against the bacteria (an infection causing) such as Pseudomonas aeruginosa, Escherichia coli, Enterobacteraerogenes, Staphylococcus aureus, and Proteus vulgaris, which results that, against all the pathogens, ZnONPs showed noticeable inhibition effects compared with zinc acetate and B. alba extract. Especially against the E. coli, ZnONPs performed well with inhibitory effect and least on S. aureus.

Conclusion: Antibacterial activities of BA-ZnONPs were studied which can act as the new antimicrobial-resistant agents.

3. **Dr. G. Dayana Jeyaleela,** "Anti – oxidant and Anti – cancer Activities of Biogenic Synthesized Copper oxide Nanoparticles", Biomedical and Biotechnology Research Journal (BBRJ), https://www.bmbtrj.org, Scopus, Web of Science, Volume 6, Issue 3, September 2022, Page No. 341-348.

Abstract:

Background: The nature acts like a large "bio-laboratory" comprising plants, algae, fungi, yeast, etc., which are composed of biomolecules. These naturally occurring biomolecules have been identified to play an active role in the formation of nanoparticles.

Methods: This research work mainly aims to investigate the anti-oxidant (diphenyl picrylhydrazyl assay) and anti-cancer (Michigan cancer foundation-7 cell line) capacities of biologically prepared copper oxide mediated from the hydroalcoholic extract of Justicia glauca by simple precipitation and also to identify the phytochemicals in the extract by qualitatively.

Results: On screening test, the extract shows the presence of carbohydrate, phenolics, alkaloids, and terpenoids saponins which are chiefly act as a reducing, stabilizing, and capping agents in nanomaterial preparations. The medicinal plant Justicia glauca extract-mediated copper oxide materials were synthesized by lost cost, simple, effective, and eco-friendly precipitation method. The prepared copper nanomaterials were characterized by ultraviolet–visible, Fourier-transform infrared spectroscopy, energy dispersive X-ray analysis, X-ray diffraction, and scanning electron microscope. The obtained spectral results reveal that the prepared particles were found to be elliptical flat shapes of copper oxide with the average size of 19.72 nm with 51.11% of copper and 48.89% of oxygen elements. Especially, on anti-oxidant and anti-cancer activities the prepared Justicia glauca extract-mediated copper oxide revealed excellent potent while comparing the other green synthesized copper oxide particles.

Conclusion: Overall results evidenced that the aqueous extract of Justicia glauca is a very good bioreductant for the synthesis of copper oxide nanoparticles.

4. **Dr. G. Dayana Jeyaleela,** "Anticancer Activity of Tin Oxide and Cerium – Doped Tin Oxide Nanoparticles Synthesized from Ipomoea Carnea Flower Extract", Biomedical and Biotechnology Research Journal (BBRJ), https://www.bmbtrj.org, Scopus, Web of Science, Volume 6, Issue 3, September 2022, Page No. 337-340.

Abstract:

Background: The aim of the study is to investigate the anticancer potential of tin oxide (SnO_2) and different concentrations (2%, 4%, 6%, and 8%) of cerium-doped tin oxide nanoparticles (Ce-SnO_2 NPs) using Ipomoea carnea flower extract. The synthesized SnO_2 and different concentrations (2%, 4%, 6%, and 8%) of Ce-SnO_2 NPs was tested using a colorimetric-based 3-(4,5-dimethylthiazol-2-yl)-2, 5-

diphenyltetrazolium bromide assay against MCF-7 human breast cancer cell line cells.

Methods: Collection and preparation of plant extract is preliminarily carried out followed by the synthesis of Undoped and Cerium doped Tin oxide nanoparticles is achieved by standard protocol along with that its anticancer activity also studied in this research.

Results: The anticancer activity increased in direct proportion to the cerium-dopant concentration. Experimental results demonstrated that 8% Ce-SnO_2 NPs exhibited a potential anticancer effect compared with SnO_2 and other concentrations of Ce-SnO_2 NPs.

Conclusion: According to the current findings, large-scale manufacturing of Ce-SnO_2 NPs might be recommended to have effective anticancer agents against breast cancer cell lines.

DEPARTMENT OF COMPUTER SCIENCE, IT AND COMPUTER APPLICATIONS

1. **Ms. V. Vetriselvi, Ms. V. Karthikadevi,** "Data-hiding using in cryptography and steganography", Neuroquantology, www.neuroquantology.com Scopus, e-ISSN NO:1303-5150, Volume 20, Issue 06, June 2022, Page No. 8401-8406.

   Abstract:

   Communication of digital information becomes frequent nowadays, due to its fast access capability. A good range of technologies for end – to – end protection are needed to resist the safety threats in modern communication. High speed communication networks facilitate the straight forward and rapid mode of online information sharing with high data rates. But the channels which are used for data sharing aren't secure. The topic of knowledge security emerges in such scenarios. To realize this, different security methods are getting used in data communication. Cryptography is one among the favoured techniques, but the scrambled appearance of encrypted information can cause high probability of attacks. Hiding information during a cover is one among the alternatives to cryptography. The most objective of this study is to supply an overall idea about the favoured also as emerging data hiding techniques in spatial and transform domains. The wide selection of those techniques will provide an honest overview about current trends in transform domain steganography to the researchers who have an interest in steganography.

2. **Ms. V. Karthikadevi, Ms. V. Vetriselvi,** "Credentials over invaders and avert the data by the usage of blockchain transactions with the cryptography techniques", Neuroquantology, www.neuroquantology.com Scopus, e-ISSN NO:1303-5150, Volume 20, Issue 06, June 2022, Page No. 8407-8415.

   Abstract:

   The foremost purpose of it demand bill is in imitation of provide a extensive comment of network security and cryptography, including precise deem to digital signatures. Network security yet cryptography is a subject even vast ranging to coverage in regard to whether in imitation of defend facts into digital structure then in conformity with supply protection services. However, a basic overview over network security and cryptography in digital signatures is then presented. The cause

about a digital symbolic letter is according to supply a potential because a nature in accordance with bound its identity according to a section regarding information.

Blockchain is broadly recognized namely a potential disruptive technological know-how so has won a whole lot popularity recently. Despite many pregnant results, the modern-day blockchain landscape is fragmented, within as many blockchain structures appear within silos. Interoperability will become a integral performance in imitations of facilitate broad blockchain receiving yet starts in conformity with attract attention between both industry then academia research. In this paper, we propose a hash characteristic are one on the close extensively – used cryptographic algorithms among block chain technology. They are cryptographic (but no longer encryption) algorithms so are designed in accordance with defend data integrity.

DEPARTMENT OF MATHEMATICS

1. **Dr. S. Vidhyalakshmi, Dr. J. Shanthi, Dr. M.A. Gopalan,** "On the second degree equation with three unknowns $5x^2+4y^2=189z^2$", International Journal of Multidisciplinary Research and Growth Evaluation, https://www.allmultidisciplinaryjournal.com/, Google scholar, Impact Factor : 6.295, ISSN (online):2582-7138, Volume :03, Issue 03, May-June 2022, Page No.197-204.

   Abstract:

   The homogeneous ternary quadratic equation given by $5x^2+4y^2=189z^2$ is analysed for its integral points on it. Also, formulae for generating sequence of integer solutions based on the given solution are presented.

2. **Ms. D. Maheswari, Dr. M.A. Gopalan,** "Integral solutions of cubic Diophantine equation with five unknowns simple form for co-efficient $x^3+y^3=13(z+w)p^2$", Advances and Applications in Mathematical Sciences, https://www.mililink.com/journals_desc.php?id=59, UGC Approved Journal, Web of science, ISSN NO: 0974-6803, Volume 21, Issue 8, June 2022, Page No.4595-4604.

   Abstract:

   The homogeneous cubic equation with five unknowns $x^3+y^3=13(z+w)p^2$ is analyzed for its non-zero distinct integral points through employing linear transformations. A few interesting properties among the solutions and special numbers are presented.

3. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Homogeneous Quinary Quadratic Diophantine Equation $x^2+y^2+4(z^2+w^2)=24t^2$", International Journal of Research – Granthaalayah, https://www.granthaalayahpublication.org/journals/granthaalayah , Google scholar, Impact Factor: 4.963, ISSN NO (Online):2350-0530, ISSN NO: (Print):2394-3629, Volume 10, Issue 5, May 2022, Page No.88-92.

   Abstract:

The homogeneous quadratic Diophantine equation with five unknowns given by $x^2+y^2+4(z^2+w^2)=24t^2$ is analysed for determining its non-zero distinct integer solution through employing linear transformations.

4. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On second Degree equation with three unknowns $2(x^2+y^2)-3xy=32z^2$, International journal of Research publication and reviews, https://www.ijrpr.com/callfp.php ,Google scholar, impact factor 5.536, ISSN NO:2582-7421, Volume 3, Issue 6, June 2022, Page No.1076-1079.

   Abstract:

   The cone represented by the ternary quadratic Diophantine equation $2(x^2+y^2)-3xy=32z^2$ is analysed for its patterns of non-zero distinct integral solutions.

5. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Homogeneous Bi-Quadratic Diophantine Equation with five unknowns $x^4-y^4=5^{2n}(z^2-w^2)T^2$", International Journal of Engineering Inventions, https://www.ijeijournal.com/ Google Scholar, Peer Reviewed Journal, Impact Factor: 6.7, e-ISSN : 2278-7461, p-ISSN : 2319-6491, Volume 11, Issue 3, May-June 2022, Page No.293-298.

   Abstract:

   The Bi-quadratic Diophantine equation with five unknowns given by $x^4-y^4=5^{2n}(z^2-w^2)T^2$ is analyzed for its non-zero distinct integer solutions. A few interesting relations among the solutions are presented.

6. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding Integral solutions of Ternary quadratic Equation", International Journal of Recent Research in Mathematics computer science and Information Technology, https://www.paperpublications.org/journal-details/IJRRMCSIT , Google Scholar, ISSN NO:2350-1022, Volume 09, Issue 01, April-September 2022, Page No.16-19.

   Abstract:

   This paper illustrates the process of obtaining different sets of non-zero distinct integer solutions to the non-homogeneous ternary quadratic Diophantine equations given by $x^2+y^2=z^2-2k^2$.

7. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On second degree equation with three unknowns $2(x^2+y^2)-3xy=53z^2$", International Research Journal of Modernization in Engineering and Technology and Science, https://www.irjmets.com/ Google Scholar, Impact Factor: 6.752, e-ISSN NO:2582-5208, Volume 04, Issue 06, June 2022, Page No.

   Abstract:

   The cone represented by the ternary quadratic Diophantine equation $2(x^2+y^2)-3xy=53z^2$ is analyzed for its patterns of non-zero distinct integral solutions.

8. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "Integral solutions of Ternary Quadratic Diophantine Equation $3(x^2+y^2)-5xy=20z^2$", International Journal of Advanced Research in Engineering & Management (IJAREM), http://www.ijarem.org/ ,Google Scholar, Impact Factor: 6.163, ISSN NO:2456-2033, Volume 08, Issue 06, 2022, Page No.01-05

   Abstract:

   The cone represented by the ternary quadratic Diophantine equation $3(x^2+y^2)-5xy=20z^2$ is analyzed for its patterns of non-zero distinct integral solutions.

9. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Homogeneous Quadratic Diophantine Equation with five unknowns $x^2+y^2+z^2+w^2=15t^2$", International Journal of Research in Engineering and Science (IJRES), https://www.ijres.org/ , Google Scholar, Impact Factor: 3.541, ISSN NO (online):2320-9364, ISSN NO (Print): 2320-9356, Volume 10, Issue 6, 2022, Page No.615-617.

   Abstract:

   The homogeneous quadratic Diophantine equation with five unknown given by $x^2+y^2+z^2+w^2=15t^2$ is analyzed for determining its non-zero distinct integer solutions through employing linear transformations.

10. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On second degree equations with three unknowns $2(x^2+y^2)-3xy=28z^2$", International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET), http://www.ijirset.com/ ,Google Scholar, Impact factor 8.118, e-ISSN : 2319-8753, p-ISSN : 2347-6710, Volume 11, Issue 6, June 2022, Page No.8283-8286.

Abstract:

The cone represented by the ternary quadratic Diophantine equation $2(x^2+y^2)-3xy=28z^2$ is analyzed for its patterns of non-zero distinct integral solutions.

11. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Homogeneous quadratic Diophantine equation with five unknown $x^2+y^2=z^2+w^2+12t^2$", International Journal of Recent Scientific Research, www.recentscientific.com ,Google Scholar, Impact factor 7.383, ISSN NO:0976-3031, Volume 13, Issue 06 (A), June 2022, Page No.1433-1435.

Abstract:

The homogeneous quadratic Diophantine equation with five unknowns given by $x^2+y^2=z^2+w^2+12t^2$ is analyzed for determining its non-zero distinct integer solutions through employing linear transformations.

12. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-homogeneous quintic Diophantine equation with five unknowns $2(x-y)(x^3+y^3)=4^n(z^2-w^2)T^3$", International Journal of current Advanced Research, https://journalijcar.org/international-journal-current-advanced-research , Google Scholar, Pubmed, Impact Factor: 6.614, ISSN : O : 2319-6475, ISSN : P : 2319-6505, Volume 11, Issue 06 (B), June 2022, Page No. 1111-1114.

Abstract:

The non-homogeneous quintic Diophantine equation with five unknown given by $2(x-y)(x^3+y^3)=4^n(z^2-w^2)T^3$ is analyzed for its non-zero distinct integer solutions.

13. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Ternary Quadratic Diophantine Equation $w^2-2z^2+2wx+20zx=51x^2$", International Research Journal of Education and Technology, www.irjweb.com ,Google scholar, Impact factor:4.944, ISSN NO:2581-7795, Volume 04, Issue 07, July 2022, Page No.77-81.

Abstract:

The Cone represented by the ternary quadratic Diophantine equation $w^2-2z^2+2wx+20zx=51x^2$ is analyzed for its pattern of non-zero distinct integral solutions.

14. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-Homogeneous Ternary Cubic Diophantine Equation $w^2+2z^2-2wx-4zx=x^3-3x^2$", International Research Journal of Education and Technology, www.irjweb.com , Google scholar, Impact factor:4.944 ISSN NO:2581-7795, Volume 04, Issue 07, July 2022, Page No. 215-219.

Abstract:

The non-homogeneous ternary cubic Diophantine equation $w^2+2z^2-2wx-4zx=x^3-3x^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few relations between the solutions and special number patterns are presented.

15. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding the integer solutions of Ternary quadratic Diophantine equation $w^2-2z^2+2wx+20zx=56x^2$", International Journal of Research Publication and reviews, https://www.ijrpr.com/International-journal-with-high-impact-factor.php ,Google scholar, Impact factor:5.536, ISSN NO:2582-7421, Volume 03, Issue 07, July 2022, Page No. 172-177.

Abstract:

The cone represented by the ternary quadratic Diophantine equation $w^2-2z^2+2wx+20zx=56x^2$ is analyzed for its patterns of non-zero distinct integral solutions.

16. **Dr. J. Shanthi, Dr. M.A. Gopalan,** "Observations on the Integral solutions of the ternary quadratic equation $x^2+y^2=z^2+10$", International Research Journal of

Education and Technology, www.irjweb.com ,Google scholar, Impact factor:4.944, ISSN NO:2581-7795, Volume 04, Issue 07, July 2022.

Abstract:

This paper illustrates the process of obtaining different sets of non-zero distinct integer solutions to the non-homogeneous ternary quadratic Diophantine equation given by

$x^2+y^2=z^2+10$.

17. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the non-homogeneous cubic Diophantine equation with five unknowns $xy-zw=R^3$", International Research Journal of Education and Technology, www.irjweb.com ,Google scholar, Impact factor:4.944, ISSN NO:2581-7795, Volume:04, Issue 08, August 2022, Page No.184-189.

Abstract:

This Paper illustrates the process of determining non-zero distinct integer solutions to the non-homogeneous cubic equation with five unknowns $xy-zw=R^3$. A few relations between the solutions and special figurate numbers are presented.

18. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the Non-homogeneous ternary Bi-quadratic Equation $4xz(x+z)=5y^4$", International Journal of Research Publication and Reviews, https://www.ijrpr.com/International-journal-with-high-impact-factor.php , Google scholar, Impact factor:5.536, ISSN NO:2582-7421, Volume 03, No.8, August 2022, Page No.443-447.

Abstract:

This paper focuses on finding non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic Diophantine equation given by $4xz(x+z)=5y^4$. Different sets of integer solutions are presented.

19. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the non-homogeneous ternary Bi-quadratic equation $5(x^2-y^2)+2(x+y)=12z^4$", International Research Journal of Modernization in Engineering Technology and Science,

https://www.irjmets.com/gallery.php ,Google Scholar, Impact Factor:6.752, e-ISSN NO:2582-5208, Volume:04, Issue:08, August 2022.

Abstract:

This paper concerns with the problem of obtaining different sets of non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic equation given by $5(x^2-y^2)+2(x+y)=12z^4$.

20. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding integer solutions to Non-homogeneous tenary bi-quadric equation $X^2+3y^2=31z^4$" International Journal of Multidisciplinary Research and Growth Evaluation, https://www.allmultidisciplinaryjournal.com/, Google scholar, Impact Factor : 6.295, ISSN NO:2582-7138, Volume 03, Issue 04, July-Aug2022.

Abstract:

This paper concern with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic equation $X^2+3y^2=31z^4$. Different sets of integer solutions are illustrated**.**

21. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "Pythagorean Triangle with 2*A/P as Gopa Numbers of the second kind ", International Research Journal of Engineering and Technology(IRJET), https://www.irjet.net/ ,Google scholar, Impact factor:7.529, ISSN:2395-0056, Volume 09, Issue:05,may 2022

Abstract:

This study deals with the problem of obtaining Pythagorean triangles where, in each Pythagorean triangle, $\frac{2*\text{Area}}{\text{Perimeter}}$

The expression is represented by Gopa number of the second kind. Also we present the number of primitive and non-primitive Pythagorean triangles and some of the relations among them.

22. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the non -Homogeneous ternary bi-quadratic equation $xz(x+z)=2y^4$", International Journal of Research Publication and Reviews, ISSN :2582-7421, Volume 3,Issue 7, july 2022.

Abstract:

This paper focuses on finding non-zero distinct integer solutions to the non-homogeneous ternary bi-quadric dioplantine equation given by $xz(x+z)=2y^4$. Different sets of integer solutions are presented.

23. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the non-homogeneous ternary bi-quadratic equation $8xz(x+z)=15y^4$" ,International Research Journal of Modernization in Engineering Technology and Science ,ISSN:2582-5208, Volume 04, Issue :July 2022.

Abstract:

This paper focusses on finding non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic Diophantine equation given by $8xz(x+z)=15y^4$. Different sets of Integer solutions are presented.

24. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On The Non-homogeneous Ternary bi-quadratic Equation $xz\ (x-z)=y^4$", International Research Journal of Education and Technology, https://www.irjweb.com/On%20The%20Non-homogeneous%20Ternary%20Bi-quadratic%20Equation.pdf, peer Reviewed journal. ISSN:2581-7795, Volume:04, Issue:07, July2022

Abstract:

This paper focuses on finding non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic Diophantine equations given by $xz(x-z)=y^4$. Different sets of integer solutions are presented**.**

25. **S. Devi Bala, Dr. M.A. Gopalan,** "Pythagorean Triangle with 2* A/P as Gopa Numbers of the First Kind", International Journal of Research Publications and

Reviews, www.ijrpr.com , ISSN NO:2582-7421, Volume 3, No. 5, May 2022, Page No. 2474-2477.

Abstract:

This study deals with the problem of obtaining Pythagorean triangles where, in each Pythagorean triangle, the expression $\frac{2*\text{Area}}{\text{Perimeter}}$ is represented by Gopa numbers of the first kind. Also, we present the number of primitive and non-primitive Pythagorean triangles and some of the relations among them.

26. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding Integral Solutions of Ternary Quadratic Equation $x^2+y^2=z^2-10$", International Journal of Progressive Research in Engineering Management and Science (IJPREMS), www.ijprems.com , Impact Factor: 2.265, e-ISSN : 2583-1062, Volume 02, Issue 09, September 2022, Page No. 58-62.

Abstract:

This paper illustrates the process of obtaining different sets of non-zero distinct integer solutions to the non-homogeneous ternary quadratic Diophantine equations given by $x^2+y^2=z^2-10$.

27. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-Homogeneous Cubic Equation with Four Unknowns $xy+2z^2=2w^3$", Purakala, https://www.scholarimpact.org/0971-2143-purakala.html , UGC CARE Approved Journal, ISSN : 0971-2143, Volume 31, Issue 2, 2022, Page No. 927-933.

Abstract:

This paper is devoted to obtain non-zero distinct integer solutions to non-homogeneous cubic equation with four unknowns given by $xy+2z^2=2w^3$

28. **Dr. S. Vidhyalakshmi, Dr. M.A. Goplan,** "On Finding Integral Solutions of Ternary Quadratic Equation $x^2+y^2=z^2-5$", Purakala, https://www.scholarimpact.org/0971-2143-purakala.html UGC CARE Approved Journal, ISSN : 0971-2143, Volume 31, Issue 2, 2022, Page No. 920-926.

Abstract:

This paper illustrates the process of obtaining different sets of non-zero distinct integer solutions to the non-homogeneous ternary quadratic Diophantine equations given by $x^2+y^2=z^2-5$

29. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding General Form of Integral Solutions to the Quinary Homogeneous Bi-Quadratic Equation $(x+y)(x^3+y^3)=\alpha(z^2-w^2)P^2$", International Journal of Research Publication and Reviews, www.ijrpr.com , Google scholar, Impact factor:5.536, ISSN NO:2582-7421, Volume 3, No. 9, Page No. 1360-1363.

Abstract:

The purpose of this paper is to obtain a general form of non-zero distinct integral solutions of quinary bi-quadratic homogeneous Diophantine equation $(x+y)(x^3+y^3)=\alpha(z^2-w^2)P^2$ where α is a given non-zero integer.

30. **Dr. S. Vidhyalakshmi, Dr. M.A.Gopalan,** "On Homogeneous Bi-Quadratic Diophantine Equation with Five unknowns $2(x-y)(x^3+y^3)=4^{2n}(z^2-w^2)T^2$", International Journal of Advanced Multidisciplinary Research and Studies, https://ijarm.com/ ,UGC Care, Google scholar, Impact factor:6.006, ISSN NO:2583-049X, Volume 02, Issue 04, Page No. 452-456.

Abstract:

The bi-quadratic Diophantine equation with five unknowns given by $2(x-y)(x^3+y^3) = 4^{2n}(z^2-w^2)T^2$ is analyzed for its non-zero distinct integer solutions. A few interesting relations among the solutions are presented.

31. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding integer solutions of ternary quadratic equation $x^2+y^2=z^2-12$", International journal of research publications and reviews, https://www.ijrpr.com/callfp.php ,Google scholar, Impact facror:5.536, ISSN:2582-7421,volume 3, no:8,pp:2146-2155.

Abstract:

This paper illustrates the process of obtaining different sets of non-zero distinct integer solutions to the non-homogeneous ternary quadratic Diophantine equation given by $x^2+y^2=z^2-12$.

32. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** " Observations on non-homogeneous bi-quadratic with four unknowns $10xy+9z^2=9w^2$", Journal of Research in multidisciplinary method and applications, http://www.satursonpublishing.com/ , ISSN:2957-3920,volume I, Issue: 5 September 2022.

Abstract:

This paper concern with the problem of determining non-trivial integer solutions of the non-homogeneous bi-quadratic equation with four unknowns given by $10xy+7z^4$. We obtain infinitely many non-zero integer solutions of the equation by introduction the linear transformations.

33. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-Homogeneous Ternary Cubic Diophantine equation $3x^2+4y^3=z^2$", International Journal of Progressive Research in Engineering Management and Science (IJPREMS), www.ijprems.com , Impact Factor: 2.265, e-ISSN NO: 2583-1062, Volume 02, Issue 09, September 2022, Page No. 30-33.

Abstract:

The non-homogenous ternary cubic Diophantine equation $3x^2+4y^3=z^2$ is analyzed for its patterns of non-zero distinct integral solutions.

34. **Dr. M.A. Gopalan, Dr. S. Vidhyalakshmi, Dr. J. Shanthi, Ms. V. Anbuvalli,** "On Finding the Integer Solutions of Ternary Quadratic Diophantine Equation $3(x^2+y^2)-5xy=36z^2$", International Journal of Precious Engineering Research and Applications (IJPERA), www.ijpera.com ,Google scholar, Impact factor: 6.4, ISSN NO:2456-2734, Volume 07, Issue 01, May 2022, Page No. 34-38.

Abstract:

The Cone represented by the ternary quadratic Diophantine equation $3(x^2+y^2)-5xy=36z^2$ is analyzed for its patterns of non-zero distinct integral solutions.

35. **Dr. M.A. Gopalan, Dr. S. Vidhyalakshmi, Dr. J. Shanthi, Ms. T. Mahalakshmi,** "On non-homogeneous ternary cubic Diophantine Equation $w^2-z^2+2wx-2zx=x^3$", International Journal of Engineering Applied Science and Technology, http://www.ijeast.com, Google scholar, Impact factor:4.987, ISSN NO:2455-2143, Volume 07, Issue 3, Page No. 120-121.

Abstract:

The non-homogeneous ternary cubic Diophantine equation $w^2-z^2+2wx-2zx=x^3$ is analyzed for its patterns of non-zero distinct integral solutions. A few relations between the solutions in the special number patterns are presented.

36. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-Homogeneous Ternary Cubic Diophantine Equation $w^2+2z^2-2wx-4zx=9x^3-3x^2$", Journal of Research in Multidisciplinary Methods and Applications, http://www.satursonpublishing.com/ , ISSN NO:2957-3920, Volume 1, Issue 4, August 2022, Page No. 1-2.

Abstract:

The non-homogeneous ternary cubic Diophantine equation $w^2+2z^2-2wx-4zx=9x^3-3x^2$ is analyzed for its patterns of non-zero distinct integral solutions. A few relations between the solutions and special number patterns are presented.

37. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding Integer Solutions to Non-homogeneous Ternary Bi-Quadratic Equation $5(x^2+y^2)-2xy=140z^4$", International Journal of Engineering Inventions, https://www.ijeijournal.com/impact.html ,Google scholar, Impact factor:6.7, e-ISSN:2278-7461, p-ISSN:2319-6491, Volume 11, Issue 8, August 2022, Page No. 01-04.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic equation $5(x^2+y^2)-2xy=140z^4$. Different sets of integer solutions are illustrated.

38. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-homogeneous Ternary Cubic Diophantine Equation $w^2+5z^2-2wx-10zx=6x^3-6x^2$", International Journal of Research Publication and Reviews, www.ijrpr.com, Google scholar, Impact factor:5.536, Volume 3, No. 8, Page No. 1308-1310, August 2022.

Abstract:

The non-homogeneous ternary cubic Diophantine equation $w^2+5z^2-2wx-10zx=6x^3-6x^2$ is analyzed for its patterns of non – zero distinct integral solutions.

39. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the Non-homogeneous Ternary Bi-Quadratic Equation $2xz(x-z)=y^4$", International Journal of Research Publication and Reviews, www.ijrpr.com , Google scholar, Impact factor:5.536, ISSN NO:2582-7421, Volume 3, No.8, Page No. 187-192, August 2022.

Abstract:

This paper focuses on finding non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic Diophantine equation given by $2xz(x-z)=y^4$. Different sets of integer solutions are presented.

40. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding Integer Solutions to Non-homogeneous Ternary Bi-Quadratic Equation $3(x^2+y^2)-2xy=11z^4$", International Journal of Novel Research in Physics, Chemistry and Mathematics, www.noveltyjournals.com , Google scholar, Impact factor:8.76, Volume 9, Issue 2, May-August 2022, Page No. 23-28.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic equation $3(x^2+y^2)-2xy=11z^4$. Different sets of integer solutions are illustrated.

41. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Non-homogeneous Ternary Bi-quadratic Equation $11(x+y)^2=4(xy+11z^4)$", Journal of Multidisciplinary Engineering Science and Research (JMESR), www.jmesr.co.uk , peer-reviewed, Google scholar, Impact factor:2.27, Volume 1, Issue 1, July 2022, Page No. 08-10.

Abstract:

This paper focusses on finding non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic equation $11(x+y)^2=4(xy+11z^4)$

42. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "General form of Integer Solutions to the ternary non-homogeneous cubic equation $y^2+Dx^2=\alpha x^3$", International Journal of Research Publications and Reviews, www.ijrpr.com ,Google scholar, Impact factor:5.536, ISSN 2582-7421, Volume 03, no 09 Page number 1776 – 1781, September 2022.

Abstract:

The purpose of this paper is to obtain a general form of non-zero distinct integral solutions of ternary non – homogeneous cubic Diophantine equation $y^2+Dx^2=\alpha x^3$ where α is a given non – zero integer.

43. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding Integer Solutions to non – homogeneous ternary cubic equation $x^2-y^2+x+y=2z^3$", International Journal of Research Publication and Reviews, www.ijrpr.com , Google scholar, Impact factor:5.536, ISSN NO:2582-7421, Volume 3, No. 9, Page No. 1786 – 1792, September 2022.

Abstract:

This paper concerns with the problem of obtaining non – zero distinct integer solutions to the non – homogeneous ternary cubic equation $x^2-y^2+x+y=2z^3$. Different sets of integer solutions are illustrated.

44. **Dr. S. Mallika, Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding Integer solutions to non-homogeneous ternary cubic equation $7(x^2+y^2)-6xy=11z^3$", International Research Journal of Modernization in Engineering Technology and

Science, www.irjmets.com , Peer – Reviewed Journal, e-ISSN NO: 2582-5208, Volume 04, Issue 09, September 2022.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous ternary cubic equation $7(x^2+y^2)-6xy=11z^3$. Different sets of integer solutions are illustrated.

45. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding Integer Solutions to Non-homogeneous Ternary Cubic Equation $3(x^2-y^2)+x-y=2z^3$", International journal of Research Publication and Reviews, www.ijrpr.com , Google scholar, Impact factor:5.536, ISSN NO:2582-7421, Volume 3, No. 10, Page No. 36-40, October 2022.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct solutions to the non-homogeneous ternary cubic equation $3(x^2-y^2)+x-y=2z^3$. Different sets of integer solutions are illustrated.

46. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On Finding Integer Solutions to Non-homogenous Ternary Cubic Equation $x^2+by^2=(m^2+bn^2)z^3$", International Research Journal of Education and Technology, https://www.irjweb.com/ , Peer Reviewed Journal, ISSN NO:2581-7795, Volume 05, Issue 10, October 2022, Page No. 22-29.

Abstract:

The purpose of this paper is to obtain different sets of non-zero distinct integral solutions of ternary non-homogeneous cubic Diophantine equation $x^2+by^2=(m^2+bn^2)z^3$. A few properties of interest are presented.

47. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "General form of Integral solutions to the ternary Non-Homogeneous Cubic Equation $x^2+y^2+xy+x-y+1=(m^2+3n^2)z^3$", IOSR Journal of Mathematics (IOSR-JM), www.iosrjournals.org , e-ISSN :2278-

5728, p-ISSN :2319-765 X, Volume 18, Issue 5, Ser I (Sep – Oct. 2022), Page No. 29-33.

Abstract:

The purpose of this paper is to obtain a general form of non-zero distinct integral solutions of ternary non-homogeneous cubic Diophantine equation $x^2+y^2+xy+x-y+1=(m^2+3n^2)z^3$.

48. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding integer solutions to non-homogeneous ternary cubic equation [$x^2+xy+y^2 = (m^2+3n^2)z^3$]", Journal of advanced education and sciences, 2022, 2(4):28-31, www.dzarc.com/education, Google scholar, ISSN: 2583-2360, Issue: 21 Oct 2022, Page No. 28-31.

Abstract:

The purpose of this paper is to obtain different sets of non-zero distinct integral solutions of ternary non-homogeneous cubic Diophantine equation $x^2+xy+y^2 = (m^2+3n^2)z^3$. A few properties of interest are presented.

49. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the ternary non-homogeneous quintic equation $x^2+ky^2 = (p^2+kq^2)^n z^5$", International journal of research publication and reviews, www.ijrpr.com, Google scholar, Impact Factor: 5.536, ISSN: 2582-7421, Volume: 03, Issue: October 2022, Page No. 1257-1260.

Abstract:

The ternary non-homogeneous quantic equation given by $x^2+ky^2 = (p^2+kq^2)^n z^5$, where p, q are non-zero integers and k is a non-zero positive square-free integer, is analysed for determining its distinct integer solutions. Also, a generation formula for the integer solutions to the given quintic equation, being given its particular solution, is illustrated.

50. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On non-homogeneous ternary quadratic equation $5(x^2 - y^2) + 6(x + y) = 6z^2$", International journal of research publication and reviews, www.ijrpr.com, Google scholar, Impact Factor 5.536, ISSN: 2582-7421, Volume: 3, Issue: November 2022, Page No. 95-101.

Abstract:

This paper aims at determining non-zero distinct integer solutions to non-homogeneous ternary quadratic equation $5(x^2 - y^2) + 6(x + y) = 6z^2$. Different sets of integer solutions have been presented through employing linear transformations.

51. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the pair of equations $N_1 - N_2 = k$, $N_1 * N_2 = k^3 s^2$, $k \geq 0$ and square – free", International research journal of education and technology, https://www.irjweb.com/, Google scholar, ISSN: 2581-7795, Volume: 04, Issue: 11 November 2022, Page No. 21-26.

Abstract:

The thrust of this paper is to obtain many non-zero distinct integers N_1 and N_2 such that $N_1 - N_2 = k$, $N_1 * N_2 = k^3 s^2$, $k \geq 0$ and square – free. A few numerical examples are given. Some observations among N_1, N_2 are presented.

52. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the system of double diophantine equations $x - y = u^2$, $\frac{x}{D} - y = v^2$", International journal of research publication and reviews, https://www.ijrpr.com/callfp.php, Google scholar, Impact Factor 5.536, ISSN: 2582-7421, Volume: 03, Issue: November 2022, Page No. 1361-1369.

Abstract:

The thrust of this paper is to obtain many non-zero distinct integer values of X such that $x - y = u^2$, $\frac{x}{D} - y = v^2$ where $D \geq 0$ & square – free and y is a known integer. A few numerical examples are given. The recurrence relation satisfied by the values of X is presented.

53. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the system of double diophantine equations $x + y = u^2$, $\frac{x}{D} + y = v^2$", International research journal of education and technology, https://www.irjweb.com/, Google scholar, ISSN: 2581-7795, Volume: 04, Issue: 11 November 2022, Page No. 27-36.

Abstract:

The thrust of this paper is to obtain many non-zero distinct integer values of x such that $x + y = u^2$, $\frac{x}{D} + y = v^2$ where $D \geq 0$ & square – free and y is a known integer. A few numerical examples are given. The recurrence relation satisfied by the values of x is presented.

54. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On non-homogeneous ternary cubic equation $5(x^2 + y^2) - 6xy = z^3$", International journal of advanced research in science, communication and technology, https://ijarsct.co.in/, Google scholar, Impact Factor 7.301, ISSN (Online): 2581-9429, Volume: 02, Issue: 1 November 2022, Page No. 564-567.

Abstract:

This paper aims at determining non-zero distinct integer solutions to the non-homogeneous ternary cubic equation $5(x^2 + y^2) - 6xy = z^3$. Various choices of integer solutions are exhibited.

55. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On finding integer solutions to non-homogeneous ternary cubic equation $(x^2 + y^2) - xy - k(x + y) + k^2 = z^3$", International journal of advanced research in science, communication and technology, https://ijarsct.co.in/, Google scholar, Impact Factor 7.301, ISSN (Online): 2581-9429, Volume: 02, Issue: 1 November 2022, Page No. 489-492.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous ternary cubic equation $(x^2 + y^2) - xy - k(x + y) + k^2 = z^3$. Different sets of integer solutions are illustrated.

56. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** "On the homogeneous equation of eighth degree with five unknowns $(x + y + z)^8 = (x + y)^4 (w^2 - wt + t^2)^2$", International journal of scientific research and reviews, http://www.ijsrr.org/, UGC Care journals and Google scholar, Impact Factor 0.745, ISSN: 2279-0543, Issue: Oct – Dec 2022, Page No. 19-24.

Abstract:

This paper focuses on finding different sets of non-zero distinct integer solutions to the homogeneous eighth degree equation with five unknowns given by $(x + y + z)^8 = (x + y)^4 (w^2 – wt + t^2)^2$.

57. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan, Dr. J. Shanthi,** "On the heptic equation with five unknowns $x^4 + y^4 – (y + x) w^3 = 14z^2 T^5$", International research journal of education and technology, https://www.irjweb.com/, Google scholar, ISSN: 2581-7795, Volume: 05, Issue: 01 January 2023, Page No. 112-116.

Abstract:

In this paper, we obtain infinitely many non-zero integer quintuples (x, y, z, w, T) satisfying the non-homogeneous equation of degree seven with five unknowns given by $x^4 + y^4 – (y + x) w^3 = 14z^2 T^5$.

58. **Dr. J. Shanthi,** "On finding integer solutions to the homogeneous ternary quadratic Diophantine equation $2(X^2 + Y^2) – 3XY = 32Z^2$", International journal of research publication and reviews, https://www.ijrpr.com/International-journal-with-high-impact-factor.php, Google scholar, Impact Factor 5.536, ISSN: 2582-7421, Volume: 04, Issue: January 2023, Page No. 700-708.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the homogeneous quadratic Diophantine equation with three unknowns given by $2(X^2 + Y^2) – 3XY = 32Z^2$. Various sets of integer solutions are obtained. A few interesting properties among the solutions are given.

59. **Dr. J. Shanthi,** "Observations on the hyperbola $x^2 = 20y^2 – 4$", International journal of research publication and reviews, https://www.ijrpr.com/callfp.php, Google scholar, Impact Factor 5.536, ISSN: 2582-7421, Volume: 04, Issue: January 2023, Page No. 678-682.

Abstract:

The aim of this paper is to determine the non-homogeneous quadratic equations with two unknowns $x^2 = 20y^2 – 4$. A few interesting properties among

the solution are given. Employing the linear combination among the solution of the given equation, integer solutions for other choices of hyperbola and parabola are determined.

60. **Ms. T. Mahalakshmi,** "ON the positive pell equation $X^2 = 42\,Y^2 + 7$", International journal of research publication and reviews, https://www.ijrpr.com/callfp.php, Google scholar, Impact Factor 5.536, ISSN: 2582-7421, Volume:04, Issue: January 2023, Page No. 763-767.

Abstract:

This paper deals with problem determining non-zero distinct integer solutions to the non homogeneous binary quadratic equation $X^2 = 42\,Y^2 + 7$. A few interesting properties among the solutions are given. Employing the linear combination among the solutions of the equation, integer solutions for other choices of hyperbola and parabola are obtained.

61. **Ms. S. Mallika, Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** On finding integer solutions to non-homogeneous ternary bi-quadratic equation $2(x^2 + y^2) - xy = 57\,z^4$, International research journal of education and technology, https://www.irjweb.com/, Google scholar, ISSN: 2581-7795, Volume: 05, Issue: 1 January 2023, Page No. 63-72.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous ternary bi-quadratic equation $2(x^2 + y^2) - xy = 57\,z^4$. Different sets of integer solutions are illustrated.

62. **Dr. S. Vidhyalakshmi, Dr. M.A. Gopalan,** On finding integer solutions to system of four Diophantine equations $a + 2b = \alpha^2$, $a + 2c = \beta^2$, $b + c = \gamma^2$, $a + b + c = 2\delta^3$, International journal of research publication and reviews, https://www.ijrpr.com/callfp.php, Google scholar, Impact Factor 5.536, ISSN: 2582-7421, Volume: 04, Issue: January 2023, Page No. 1015-1018.

Abstract:

This paper aims at determining explicitly three non-zero distinct integers a, b, c such that $a + 2b = \alpha^2$, $a + 2c = \beta^2$, $b + c = \gamma^2$, $a + b + c = 2\delta^3$. Different methods have been considered to obtain the three required integer a, b, c.

63. **Dr. M.A. Gopalan, Dr. S. Vidhyalakshmi, Dr. J. Shanthi, Ms. T. Mahalakshmi,** " A Search on Integer Solutions to the Homogeneous Quadratic Equation with Three Unknowns $x^2 + 17y^2 = 21z^2$, International Journal of Research Publication and Reviews, www.ijrpr.com, Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue May 2023, Page No. 3610-3619.

Abstract:

This paper focus on finding non-zero distinct integer solution to the Homogeneous Quadratic Diophantine Equation with three unknowns given by $x^2 + 17y^2 = 21z^2$ various sets of integer solution are obtained. A few interesting properties among the solution are given. Also, knowing a solution of the given equation, formulas for obtaining sequence of integer solutions based on the given solution are presented.

64. **Ms. T.Mahalakshmi, Ms. E. Shalini,** " On Finding Integer Solution to the Homogenous Ternary Quadratic Diophantine Equation $3(x^2 + y^2) - 5xy = 15z^2$, International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue May 2023 , Page No.452-462.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the humongous quadratic Diophantine equation with three unknowns given by $3(x^2 + y^2) - 5xy = 15z^2$. Various sets of integer solutions are obtained. A few interesting properties among the solutions are given. Also, knowing a solution of the given equation, formulas for obtaining sequence of integer solutions based on the given solution are presented.

65. **Ms. T.Mahalakshmi, Ms. P.Sowmiya,** " Observation on the Positive Pell Equation $x^2 = 42y^2 + 28$, International Journal of Research Publication and Reviews,

www.ijrpr.com , Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue May 2023 , Page No.589-606.

Abstract:

This paper deals with the problem of obtaining non-zero distinct Integer solutions to the non-homogenous binary quadratic equation with two unknowns $x^2 = 42y^2 + 28$. A few interesting relations among the solutions are given. Employing the linear combination among the solutions of the given equation, integer solutions for other choice of hyperbola & parabola and few relations among special polygonal numbers are illustrated.

66. **Ms. J.Shanthi, Ms. M.Parkavi,** " Observations on the Hyperbola $x^2 = 20y^2 + 45$, International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue May 2023 , Page No.570-583.

Abstract:

The binary quadratic represented by the positive pellian $x^2 = 20y^2 + 45$ is analysed 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 choice of hyperbolas & parabolas and a few relations among special polygonal are obtained.

67. **Dr. J.Shanthi, Dr. V.Anbuvalli, Dr. S.Vidhayalakshmi, Dr. M.A.Gopalan** " On the non-homogeneous sextic equation with three unknowns $3(x^2 + y^2) - 5xy = 36z^6$, International Journal Of Multidisciplinary Research and Growth Evaluation, https://www.allmultidisciplinaryjournal.com Google Scholar, Impact Factor: 6.477, ISSN : 2582-7138, Volume 4, Issue 3 May-June 2023, Page No.44-47.

Abstract:

The sextic non-homogeneous equation with four unknowns represented by the Diophantine equation $3(x^2 + y^2) - 5xy = 36z^6$ is analyzed for its patterns of non-zero distinct integral solutions are illustrated. Various interesting relations

between the solution and special numbers, namely polygonal numbers, pyramidal numbers, Jacobsthal-Lucas numbers are exhibited.

68. **Dr. S.Vidhyalakshmi, Dr. J.Shanthi, Ms. M.Devi, Dr. M.A.Gopalan** " A Study on the Hyperbola $y^2 = 87x^2 + 1$, International Research Journal of Education and Technology, Peer Reviewed Journal, https://www.irjweb.com Google Scholar, Impact Factor: 2.845, ISSN : 2581-7795, Volume 5, Issue 3 March 2023, Page No.18-32.

Abstract:

The binary quadratic equation $y^2 = 87x^2 + 1$ is considered for obtaining its integral solutions. A few interesting properties among the solutions are presented. Employing the integral solutions of the equation under consideration. A few remarkable observations are illustrated.

69. **Dr. R.Maheswari, Ms. R.Ragavi,** " Elimination of Attributes in Coccidiosis with Cattle Disease Through Nano Topology, International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue February 2023 , Page No.1009-1017.

Abstract:

The main objective of this paper is to apply elimination of attributes in information systems through Nano topological spaces. Also, we identify the risk factors that cause Coccidiosis with cattle by busing Nano topology.

70. **Dr. R.Maheswari , Ms. S.Priyanga, "** Decision Making of Bacterial Leaf Blight Diseases of Rice by Using the Concepts of Nano Topology, International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue February 2023 , Page No.1018-1022.

Abstract:

In this article approach in Nano topology is used as the perception to reduce conditional attributes", also we identified the major symptoms to determine the Bacterial leaf blight of rice.

71. **Dr. M.A.Gopalan, Dr. J.Shanthi, Dr. V.Anbuvalli**, " Observations on the Paper Entitled Solutions of the Homogeneous Cubie Equation with Six Unknowns $(w^2 + p^2 - z^2)(w - p) = (k^2 + 2)(x + y)R^2$, International Journal of Research Publication and Reviews, www.ijrpr.com , Google Scholar, Impact Factor: 5.536, ISSN 2582-7421, Volume 4, Issue February 2023 , Page No.313-317.

Abstract:

This paper illustrates the process of obtaining different integer solutions to the homogeneous cubie equation with six unknowns. $(w^2 + p^2 - z^2)(w - p) = (k^2 + 2)(x + y)R^2$.

72. **Dr. T.Mahalakshmi, Ms. P.Sowmiya,** " A SEARCH ON SOLUTIONS TO THE NON-HOMOGENEOUS TERNARY QUINTIC EQUATION WITH THREE UNKNOWNS $2(x^2 + y^2) - 3xy = 8z^2$, International Research Journal of Education and Technology, Peer Reviewed Journal, https://www.irjweb.com Google Scholar, Impact Factor: 2.845, ISSN : 2581-7795, Volume 5, Issue 3 March 2023, Page No.453-462.

Abstract:

This paper focuses on finding non-zero distinct integer solution to the Non-Homogeneous Ternary Quintic Diophantine Equation with three unknowns given by $2(x^2 + y^2) - 3xy = 8z^2$. Various sets of distinct integer solutions to the considered quintic equation are studied through employing the linear transformations x=u+v, y =u-v (u≠v≠0) and applying the method of factorization.

73. **Dr. T.Mahalakshmi, Ms. E.Shalini,** " ON FINDING INTEGER SOLUTION TO THE NON-HOMOGENEOUS TERNARY QUINTIC DIOPHANTINE EQUATION $3(x^2 + y^2) - 5xy = 15z^2$, International Research Journal of Education and Technology , Peer Reviewed Journal, https://www.irjweb.com Google Scholar, Impact Factor: 2.845, ISSN : 2581-7795, Volume 5, Issue 3 March 2023, Page No.472-478.

Abstract:

This Paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogenous Quintic Diophantine equation with the three unknowns given by $3(x^2+y^2)-5xy=15z^2$. Various sets of distinct integer solutions to the considered quintic equation are studied through employing the linear transformation x=u+v, y=u-v, (u≠v≠0) and applying the method of factorization.

74. **Dr. J.Shanthi, Ms. M.Parkavi**, "ON FINDING SOLUTIONS TO THE NON-HOMOGENEOUS TERNARY QUINTIC DIOPHANTINE EQUATION $x^2+y^2-xy=28z^2$, International Research Journal of Education and Technology , Peer Reviewed Journal, https://www.irjweb.com Google Scholar, Impact Factor: 2.845, ISSN : 2581-7795, Volume 5, Issue 3 March 2023, Page No.463-471.

Abstract:

This paper concerns with the problem of obtaining non-zero distinct integer solutions to the non-homogeneous Quintic Diophantine equation with three unknowns given by $x^2+y^2-xy=28z^2$. Various sets of distinct integer solutions to the considered quintic equation are studied through employing the linear transformations x=u+v, y=u-v, (u≠v≠0) and applying the method of factorization.

DEPARTMENT OF MICROBIOLOGY

1. **Ms.Subhashini Gunasekaran, Ms.Chitra Devi Kalanjiyam,** Effect of Andrographid echioides (L) Nees Whole Plant Extracts as an Antioxidant Agent, Research Journal of Agricultural Science ,An International Journal, www.rjas.org , Google Scholar, Impact Factor : 2015 : 3.456 ; 2018 : 4.633 , P-ISSN 0976-1675, E-ISSN 2249-4538, Volume 13, Issue 04,15 July 2022, Page No. 1032-1036.

   Abstract:

   Peptic Ulcer Disease is a major complication among 10% of the human population. Management of this disease is a global issue and can be achieved by multiple therapies. Though this disease is treated with antibiotics, proton pump inhibitors, h2 blockers, antacids, and cytoprotective agents, which creates lots of side effects and microorganisms developed drug resistance. Andrographis echioides is an herb traditionally and still in villages used for the treatment of various ailments. Antiulcer activity of this plant's whole part was done by making use of ethanol-induced experimental animals. SOD, GPx, GSH, CAT, and MDA were assessed using standard textual methods. Aqueous and ethanolic extracts of whole parts of this plant revealed 69.1-83% ulcer protection and restored the levels of gastric volume, gastric acidity, and gastric pH. Levels of antioxidant enzymes were also restored in control animals and omeprazole-treated animal groups. Phytochemicals like flavonoids, tannins, and phenolic compounds are essential in controlling ulceration and the free radical scavenging power of the plant materials and are confirmed as antioxidant and antiulcer agents.

2. **Ms.G.Subhashini, Ms.K.Chitra Devi, "**Pharmacognostic and Phytochemical Features of Andrographis echioides Whole Plant Powder", International Journal of life science and pharma research, https://www.ijlpr.com/index.php/journal , Google scholar, Impact factor: , E-ISSN No: 2250-0480, https://pdfs.semanticscholar.org/1c0c/cf7fc3249a06b5a5673b61b0a98d3bfab2be.pdf , Volume 2, No.5 , September 2022, Page No. LI 96-205.

   Abstract:

Andrographis echioides is one of the stress tolerant plant that belongs to the family Acanthaceae commonly called as Kopuramthangi in Tamil, commonly found in central region of Tamilnadu, India. Local peoples used this plant for fever, to relieve griping, irregular stools and loss of appetite. Indian siddha and ayurvedic pharmacopeia provide standardization criteria for herbal drugs. The aim of the study is to provide quality standards for the powder drug from the whole plant of Andrographis echioides. In order to provide herbal standards for this plant, the present study was undertaken with the objectives to assess pharmacognostic, physiochemical and phytochemical markers of the drug powder of Andrographis echioides whole plant. Andrographis echioides whole plant was collected, authenticated and processed for all pharmacognostic activity using standard textual methods. Powder analysis showed the presence of calcium oxalate crystals, trichomes, fibres, vessel elements and parenchyma cells. The powder is yellowish green in colour with 3.6% ash value with higher water extractive (19.4%). Powder contains a smaller number of microbial flora and no pathogens detected. Multiple fluorochromes were detected in fluorescence test. The pharmacognostic results were within the limits of ayurvedic pharmacopeia of India. Whole plant powder showed the presence of terpenoids, flavonoids, Saponins, phenolic compounds and carbohydrates which could be responsible for all biological activities of the plant. Histochemical analysis also confirmed the availability of phytoconstituents like flavonoids and tannins. The observations made through this study would be of immense value in the pharmacological evaluation and standardization of crude powder of the plant materials.

3. **Ms.K.Chitra Devi, Ms.G.Subhashini, "** CASE STUDIES ON THERAPEUTICS USE OF HERBAL PLANT AMONG CANCER PATIENTS", European Chemical Bulletin, https://www.eurchembull.com , https://www.eurchembull.com/uploads/paper/d3659a87bc0c5973608460e169665cbe.pdf , Google Scholar, Impact factor: 0.247, ISSN No. 2063-5346, Volume 12, Issue No.3, Page No. 162-176.

Abstract:

The most common cause of death worldwide is now cancer, surpassing cardiovascular disease. The environment, way of life, genetics, and other factors are just a few of the causes of cancer. Many cancer patients seek alternative and/or complementary treatments due to the high death rate associated with the disease as well as the unfavorable effects of chemotherapy and radiation therapy. Traditional medicine began with the hunt for botanicals that could treat illnesses like cancer. Several of the plants used in traditional medicine contain different bioactive compounds that have therapeutic potential, making them valuable not just for treating illnesses but also for preventing them. The worldwide pharmaceutical industry has benefited greatly from the contributions of plants. In this review, we've put up a list of 8 medicinal plants along with the anticancer compounds they hold. Scientists interested in developing a safe and efficient plantbased cancer treatment can use this article as a starting point. This study will offer data in favour of using these therapeutic herbs in conventional cancer treatment.

DEPARTMENT OF SOCIAL WORK

1. **Dr. K. Kavitha Maheswari,** Adolescent student's opinion and Awareness on III Effects of Street Food", International Journal of Creative Research Thoughts (IJCRT), https://www.ijcrt.org/ , Google scholar, Impact factor:7.79, ISSN NO:2320-2882, Volume 10, Issue 6, June 2022, Page No.b975-b979.

   Abstract:

   Early life has increasingly been recognized as a time frame in which nutritional requirements rise and lifetime diet and lifestyle taste and preferences are founded, not just as an initial moment of opportunity for catch-up growth (Goldberg GR et. al. 2013) but also as a period in which nutritional requirements growth and long-term dietary interests are established. These practices can have an effect on the health status of teenagers and also coming generations (viner RM, 2013). The aim of the study is to assess awareness on the ill effects of street food among school students. Descriptive research design been used in this study. It is concerned with describing the social demographic characters along the economic, street food issues, spreads germs and bacteria, hygienic methods, and the problems related to consumption of street food among school students. The universe of the study is 9th standard boys and girls who are studying in private higher secondary school in Trichy. There are 124 boys and 86 girls who constitute the universe of the study. The researcher selected 50, 9th grade students for this study by using simple random sampling (lottery method). The research used self-prepared questionnaire covering their awareness on the ill effects of street food among school students. Major findings of the study is discussed in the full paper.

2. **Dr. K. Kavitha Maheswari,** "Problems faced by the school teachers during Covid-19 Lockdown", International Journal of Multidisciplinary Research in Arts, Science & Commerce, https://www.sdnbvc.edu.in/ijmrasc/ , Google scholar, ISSN NO (Online):2583-018X, Volume 02, (Special Issue-01), April 2022, Page No.40-46.

   Abstract:

   Covid-19 has created its impact in all walks of life, to prevent and control the spread of infection, social distancing lockdown, various other precautionary measures are also taken by the respective governments for the welfare and benefit

of the public. Education system underwent a drastic crisis during the lockdown period. Online classes by using internet facilities reached every corner of the country. It made the educational services possible during curfew. One of the major stakeholders of the educational services namely the teachers came across lots of stress and strain along with positive lessons during this period. Especially the teachers working in private school teachers faced challenges which they have never experienced before. Some of them given up their job and went for hunting other sources of livelihood and the remaining struggled to fulfil the family commitments as well as the problems of health, network/data issues, rural domicile and other academic related problems. This descriptive study is an attempt to know the problems and challenged faced by the school teachers during lockdown. A self-prepared interview schedule was used to collect details of socio-demographic condition, economic, social and health issues faced by the teachers along with the issues related to online classes taken under work from home criterion. Totally 50 teachers working in a Trichy based private school were taken as sample by using simple random sampling. The major findings of the study will be discusses in the full paper.

3. **Dr. K. Kavitha Maheshwari,** "Problems and Challenges faced by working women", International journal of Multidisciplinary Research in Arts, Science & Commerce, https://www.sdnbvc.edu.in/ijmrasc/ , Google scholar, ISSN NO (Online):2583-018X, Volume.2, (Special Issue-01), April 2022, Page No. 34-39.

Abstract:

Since the dawn of time, women community had indeed been viewed as second-class citizens. In a male dominated society, hierarchical norms have mandated the dos and don'ts for women in every aspect of their life, from public behavior to reproductive decisions. Working women, that is, those who work for a living, encounter challenges at work just because they are female. The public perception of women's roles lags far behind the law. Gender discrimination is another issue that many women face at work. Though business workplaces are gradually closing the gender divide, private institutions and government offices

remain even further behind. Women in general find it difficult to distinguish between their personal lives and their successful jobs. For generations, women have been victims of men's power struggles. When communicating with co-workers, colleagues, and bosses, women in higher positions face the problem of ego clashes. This descriptive study on problems and challenges faced by working women was conducted among the women working in Trichy based printing press. 50 respondents were selected by using simple random sampling with lottery method. A self – prepared questionnaire was used to collect data covering socio-demographic variables, work place safety, problems encountered and their work life balance. The major findings of the study will be discussed in the full paper.

DEPARTMENT OF TAMIL

1. **ஆய்வாளர் ப.லெட்சுமி, முனைவர் ப.ஸ்ரீதேவி**, தமிழாய்வுத்துறை, ஸ்ரீமதி இந்திரா காந்தி கல்லூரி, திருச்சி, புதுப்புனல் கலை இயக்கிய மாத இதழ் "காவலரும் நாவலரும்" http://pudhupunal2009.blogspot.com/2023/06/2023_30.html, புதுப்புனல் கலை இயக்கிய மாத இதழ் மலர் 14, இதழ் 4, UGC Care, Page. No: 93-95.

முன்னுரை:

சங்க காலப் புலவர்கள் புரவலர்களை இறையெனக் கருதிப் போற்றினர். மன்னர்கள் மக்களுக்காக செய்த கொடையையும், இரத்தையும் புகழ்ந்துபாடி மக்கள் உள்ளத்தில் அரசர்கள் பற்றிய உயர்வான சிந்தனைகளையும், மதிப்பையும் ஏற்படுத்தியவர்கள் புலவர்கள். அதேபோல் காவலர்கள் நாவலர்களால் பாடப்படுதலை ஒரு பெரும் பேறாகக் கருதினர். மன்னர்கள் புலவர்களுக்கு கொடை நர்தலை துறக்கயுலகத்துச் செலுத்துமெனவும் ஒரு நம்பிக்கையை கொண்டிருந்தனர். இவ்ஙனம் சொல்லப்படாத ஓர் ஒப்பந்தம் வேந்தர் புலவர்களிடத்தில் நிலவி இருந்தமையைச் சங்கப்பாக்களின் வழி அறிய முடிகின்றது அரசர்கள் குறித்த உயரிய எண்ணங்கள் மக்கள் மனதில் பதியும் வகையில் பாடல்கள் இயற்றிப் பெரும் தாண்டாற்றியவர்கள் புலவர்கள். புலவர்களின் வறுமையைப்போக்க அரசர்கள் காரணமாக விளங்கினர் சங்க காலச் சமுதாயம் புலவர்களைச் சான்றோர்கள் என மதித்துப் போற்றிய பாங்கும் கல்வியையும், புலமையையும் உயர்வாகக் கருதிப் போற்றியத் தன்மையும் அரசருக்கும், புலவருக்கும் நெருங்கிய இணைப்பு ஏற்படக் காரணமெனலாம்.

கோப்பெருஞ்சோழன் –பிசிராந்தையார்

கோப்பெருஞ்சோழன் –பொத்தியார்

அதியமான் -ஔவையார்

பாரி -கபிலர்

குமணன் -பெருஞ்சித்திரனார்

என்று சங்க இலக்கியத்தின் வாயிலாக மக்கள் மனதில் பதிந்தது.

2. **க.கவிதவள்ளி, முனைவர் ப.ஸ்ரீதேவி**, தமிழாய்வுத்துறை, ஸ்ரீமதி இந்திரா காந்தி கல்லூரி, திருச்சி, புதுப்புனல் கலை இயக்கிய மாத இதழ் மலர் 14, இதழ் 4, பெரியபுராணத்தில் மூவரின் அற்புதங்கள், ஏப்ரல் 2023 http://pudhupunal2009.blogspot.com/2023/06/2023_30.html UGC Care, Pg.No: 159-162.

முன்னுரை:

பெரியபுராணம், அடியார்களுக்கு எளியனாக விளங்கிய இறைவனையும், அவனைத் தமது திரு உள்ளத்தில் எழுந்தருளச் செய்த அடியார்களையும் பற்றி பேசுகின்றது. இப்புராணத்தில் இடம்பெற்றுள்ள அடியார்கள் பல்வேறு நாடும், ஊரும்சாதியையும், தொழிலும் கொண்டவர்கள். இவர்களுடைய வாழ்க்கையையும், அவர்கள் செய்த அற்புதச் செயல்களையும், விவரிக்கும் முறையில் அக்காலச் சமுதாய மக்களின் பக்தியினை அறிந்து கொள்ளும் நோக்கத்தோடு இக்கட்டுரை அமைகிறது.

DEPARTMENT OF ENGLISH

1. Dr.M.Usha Bharathi, "Exploring the theme of Human-Animal Kinship in Margaret atwood's oryx and crake", Shanlax International Journal of Arts, Science and Humanities**,** **https://shanlaxjournals.in/journals** , Google Scholar, P-ISSN No. 2320-2645, E-ISSN No. 2582-3531, Impact factor. 4.110, Volume 10, Issue 1, January 2022, Page no. 67-69.

Abstract:P

Oxyx and crake explored the theme of advancement of science and its challenges are distinct between human and animal. Atwood discusses the theme during a special way in her novel 'Orxy and crake' published within the year 2003. It deals with the protagonist snowman's hindering mind about his past and annihilating present. The protagonist is revealed through his attitude with creature called 'Crakers' and his deportments throughout the novel. The most frightening thing within the novel is that the pigoons that jimmy's father helps to make as a genetic engineer at the organ inc farms compound. The novel is setting by post-apocalyptic and narrates the story of mankind's demise as results of a worldwide epidemic deliberately caused by the idealistic scientist crake. This novel highlights how the crakers, a scientifically created race meant to outpace humanity takes over man's place.

Thank
you