SHRIMATI INDIRA GANDHI COLLEGE

(A UNIT OF NATIONAL COLLEGE COUNCIL)

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

Tiruchirappalli – 620 002.

SIGARIA

2021-2022

CONTENTS

DEPARTMENT OF BIO CHEMISTRY

DEPARTMENT OF BIO CHEMISTRY

1. **Dr.R.Manikandan**, "Cardio – protective effects of terminalia catappa leaves and terminalia chebula fruit extract in doxorubicin-induced cardiomyopathy in rats", Biomarkers, Scopus, Impact factor:2.658, https://doi.org/10.1080/1354750x.2022.2064550 , Volume 27, Issue:4, 2nd may 2022, Page No.01-08.

Abstract:

Background: The cardio-protective effects of Terminalia catappa and Terminalia chebula are well-recognized in Ayurveda for its antimicrobial, antidiabetic and antioxidant potentials. The present study evaluates the effects of T.catappa leaves (Tct.LE) and T.chebula fruits (Tce.FE)against doxorubicin (DOX) induced rats through analysis of the cardiac biomarkers, tricarboxylic acid (TCA) cycle enzymes and respiratory chain enzymes for their cardio-protective properties.

Materials and methods: This study includes 42 adult male albino wistar rats randomized into seven groups for 21-days. Groups were categorized as control; DOX (1.5 mg/kg) induced negative control;basal diet with 300 mg/kg of Tct.LE, with 300mg/kg of Tct.LE, Tce.FE and propranolol (25mg/kg)

Results and Discussion: The doses of 300mg/kg of both plants have a significant effect on the TCA cycle, respiratory and lysosomal enzymes activity. The troponin levels are significantly reduced in plants treated group than the DOX-treated rats when compared with the control and propranolol treated group. Likewise, the increased level of creatine kinase-muscle/MB, creatine kinase and lipid profile in the DOX-treated animals were significantly reduced upon being treated with extracts.

Conclusion: The cardio-protective activity of Tct.Le leaves and Tce.FE indicate its potential use in the management of cardiocascular diseases.

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2. **Dr.R.Manikandan,** "Effects of Euphorbia thymifolia and Euphorbia hirta leaf extracts on membrane-bound, mitochondrial enzymes and lipid profile of carbon tetrachloride – induced hepatotoxicity in rats", Natural resource for human health, Publons, https://doi.org/10.53365/nrfhh/146770 , e-ISSN NO:2583-1194,March 2022, Page no.01-07.

Abstract:

The present investigation was aimed to identify the potentially of Euphorbia thymifolia Linn. And Euphorbia hirta Linn. Leaf extract on the toxin-induced (Carbon tetrachloride-CCl$_4$) Albino Wistar rats. The animals were grouped into 7 categories including control (basal diet, G1), CCl$_4$- induced (1.5 mL/kg, b.w., i.p) (G2), G1 administrated with 300 mg/kg b.w., extract of Ethymifolio (G3) and E.hirta (G4), G2 administrated with 300 mg/kg b.w., extract of E.thymifoloa (G5), E-hirta (G6), and standard drug (silymarin 25 mg/kg b.w; G7) for 21-days trial period with

each group contains 6 rats. The samples were collected and the following parameters including mitochondrial enzymes, different ATPase and lipid profiles were analyzed. The membrane – bound enzymes, the mitochondrial enzymes levels and the lipid profiles were reduced in the toxin – induced rats but the levels of enzymes were restored, significantly increased and lipid profiles are returned to the normal in the treatment of both extracts.
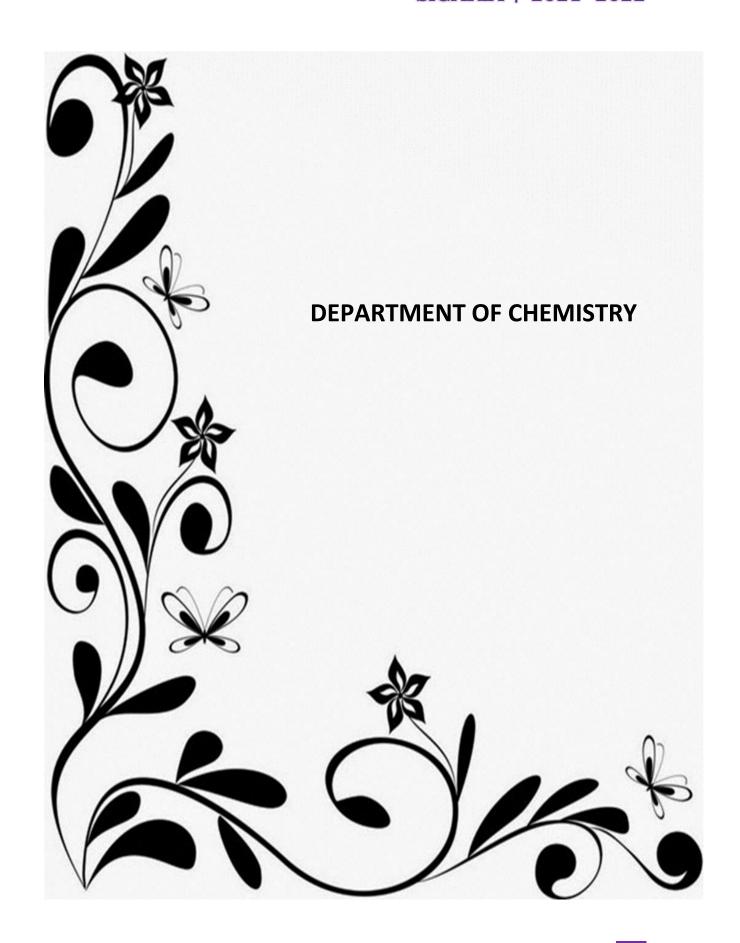
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3. **Dr.B.Varalakshmi, Dr.T.Karpagam, Dr.A.Shanmugapriya, Dr.V.Suganya, Ms.P.Anitha, Ms.S.Gomathi, Dr.R.Manikandan, Dr.T.Abarba,** "Nano phytotrmrdiation for textile dye degradation using abutilon indicum silver nanoparticles: photo catalytic activities", Journal of Medical Pharmaceutical and Allied Sciences, UGC Care, Scopus, Google Scholar, Impact Factor:78.243 https://jmpas.com/download/article/1642429511JMPAS_NOVEMBER-DECEMBER_2021.pdf , Volume 10, Issue 6, November – December 2021, Page No. 3960-3964.

Abstract:

Synthetic dyes are colouring agents mainly used in textile industries which generate a huge amount of wastewater in the process of dyeing. Different dyes used in textile industry usually have a synthetic origin and complex aromatic molecular structures which make them more stable and more difficult to be biodegraded and thus polluting the environment. To overcome the deleterious effects of such dyes, it is necessary to decolorize them. In the present study, fabric azo dyes were decolourized by silver nano particle isolated from plant Abutilon indicum. Production and characterization of silver nanoparticles synthesized from Abutilon indicum was analysed by UV-visible spectroscopy and Fourier transform infra-red spectroscopy. Photo catalytic degradation using Abutilon indicum synthesized silver nanoparticles showed significant dye degrading efficiency against azo dye. At the end of 24 hours, nanoparticles of Abutilon indicum showed 17.41% of degradation, followed by increased degradation of about 72%. at the end of 7th day of incubation. Results confirmed the complex, toxic azo dyes were degraded into simple, non-toxic compounds. In conclusion, Abutilon indicum synthesized silver nanoparticles can exhibit excellent photo catalytic activity against dye molecules and can be used in water purification systems and dye effluent treatment

DEPARTMENT OF CHEMISTRY

DEPARTMENT OF CHEMISTRY

1. **Dr.P.Lakshmi Prabha,** "Electro organic Synthesis and Characterization of 4 – Ethoxy Acetanlide using Platinum and Graphite as Anodes", Journal of Scientific Research, Peer Reviewed Journal, Impact Factor: 4.003, https://www.banglajol.info/index.php/JSR , ISSN NO: 2070 – 0237 (Print), ISSN NO: 2070-0245 (Online), Volume 14, Issue (2) , 2022, Page No.583 – 591.

Abstract:

Alkoxy group substituted compounds of acetanilide are found to have pharmacological and industrial importance. Synthesis of alkoxy substituted acetanilides via conventional thermal methods involves multi – step processes, formation of side products, and the poor yield of desired products. But , the vast literature studies reveal that electro organic synthesis of alkoxy substituted acetanilide derivatives would be effectively carried out through electrochemical oxidation methods. The direct substitution of the ethoxy (alkoxy) group onto the aromatic ring, an electrophilic substitution, has not been attempted so gar. This concept is taken as a preparatory attempt to find an alternate method to the tedious chemical route and to invent a direct method of introducing the ethoxygroups into the aromatic ring in a single step. A polarization study on acetanilide with ethanol as an electrolyte is carried out on platinum and graphite anodes to find out the oxidation potentials. Electrochemical ethoxylation of acetanilide at the platinum electrode is done by the potentiostatic method using the oxidation potentials. The products are characterized by UV, IR, NMR and Mass spectra.

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2. **Dr.G.Dayana Jeyaleela,** "Biosynthesis an anti molecular activity of aluminium oxide nanoparticles using Lyngbya majuscule extract", Materials Letters, Elsevier, Scopus, Impact Factor: 3.423, www.elsevier.com/locate/matlet , ISSN NO:0167-577X, December 2021, Page No:01-04.

Abstract:

Today, the synthesis of green metal nanoparticles is a potential approach in material science and nanotechnology. Aluminium nanoparticles (Al_2O_3NPs) were produced in a high-efficiency, cost-effective, green and easy method using Lyngbyamajucula algae extract. Thealuminium oxide nanoparticles were evaluated using X-ray diffraction (XRD), Fourier transforms infrared spectroscopy (FT-IR), and scanning electron microscopy (SEM). This study also determines the antibacterial activity and minimum inhibitory concentration (MIC) of Al_2O_3 nanoparticles against pathogens such as Streptococcus aures, Bacillus subtills, Klebsiella pneumoniae, Salmonella paratyphi, candida albicans, and Asperegillus flavus. The average crystalline size of Al_2O_3 nanoparticles was determined to be 326 nm and 382 nm in UV, 28nm in XRD, and peaks at 407 and 428 in the FT-IR spectra, which were attributed to aluminium oxide stretching. Klebsiella pneumoniae and candida albicans displayed a peak zone of inhibition (22mm) in the antibacterial agent that may be used to treat a wide range of human illness.

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3. **Dr.G.Dayana Jeyaleela,** "Comparison of Anti-Inflammatory Activities of Biogenic Gymnema Sylvestre – and Panicum Sumatrense – Mediated Titanium Dioxide Nanoparticles", Biomedical and Biotechnology Research Journal (BBRJ), Scopus, Web of Science, https://www.bmbtrj.org/ ISSN Print No:2588-9834, ISSN Online No:2588-9842, December 2021, Page No:405-411.

    Abstract:

    Studying the anti-inflammatory effect of the wound-healing property in immune responsive compounds such as interleukins and cytokinins plays a vital role in targeting various inflammatory diseases such as asthma, rheumatoid arthritis, tuberculosis, and periodontitis. The goal of the present work is to compare the anti – inflammatory activity of Gymnema sylvestre (GS) – and panicum sumatrense (PS) – mediated titanium dioxide (TiO_2) nanoparticles (NPs) by in vitro studies

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4. **Dr.K.Rajalakshmi,** "Synthesis, Characterization and thermoelectric properties of Ca susbstituted nanostructured $SrMnO_3$ by sol-gel hydrothermal method", Materials Today:Proceedings, Scopus, ImpactFactor:26.943, https://doi.org/10.1016/j.matpr.2022.01.273 , ISSN NO:2214-7853, Volume.57 part5, 2022, Page No.2344-2349.

    Abstract:

    Perovskite manganite are pure and stable at elevated temperatures due to its thermal and chemical stability. Pure and Ca substituted $SrMnO_3$ nanoparticles have been prepared by sol-gel hydrothermal method. Structural, micro structural, elemental, functional, optical, electrical and thermoelectric properties have been investigated by XRD, Raman, SEM with EDAX, FTIR, UV–Vis Spectroscopy and Physical properties respectively. Powder X-ray Diffraction studies reveals the formation of the single phase without secondary phases. Poly vinyl pyrrolidone as a capping agent decreases the grain size of the nanoparticles with different nanostructures. Electrical conductivity increases but thermal conductivity is strongly reduced due to grain size reduction. Thermoelectric properties are evaluated from ambient to 300 K. Ca^{2+} substituted at A-site of $SrMnO_3$ nanoparticles leads to oxygen deficient calcium manganese oxide nanoparticles. The major charge carriers are an electron that reveals that pure and Ca substituted $SrMnO_3$ nanoparticles are n-type promising thermoelectric oxides with high thermoelectric power.

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5. **Dr.L.Bhuvana,** "Covid-19 Impact on sustainable development and livehood", International journal of Business and Administration Research Review, Peer reviewed & Indexed journal, Impact Factor:6.304, www.ijbarr.com , E-ISSN NO.2347-856X, ISSN NO:2348-0653, Volume 9, Issue-1, January-March 2022, Page No.104-107.

Abstract:

The Covid-19 pandemic may affect the world severely in terms of quality of life, political, environmental and economic sustainable development and the global economy. Its impact is attested to by the number of research studies on it. There is a high rate of uncertainty related to COVID-19 whose pandemic impacts economic performance, sustainability criteria, and development processes. The effect of coronavirus on health and economic crises. Analysis of its growth in countries, clearly shows that its development leads to crises. Declining GDP rates damage health, education and industrial progress globally. The Covid-19 vulnerability affects socio-economic circumstances because of declining global GDP, declining capital flows, fewer investment opportunities and decreased trading. Not limited to economic loss, this pandemic impacts social parameters like the changes in sustainable psychological development. Globally, the rate of poverty is increasing.

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DEPARTMENT OF ENGLISH

DEPARTMENT OF ENGLISH

1. **Ms.J.Delicea Jasmine,** "The Serfdom of Women Portrayed by Margaret Atwood in the Handmaid's Tale", Shanlax International Journal of English, Google Scholar, Impact Factor:4.110, https://doi.org/10.34293/english.v10iS1-Jan2022.4725 , P-ISSN NO: 2320-2645, E-ISSN NO:2582-3531, January 2022, Page No.34-35.

Abstract:

The aim of this paper The Handmaid's Tale is to scrutinize issues. As there is plenty of traditional feminist critique of male power structures in Atwood's works, The Handmaid's Tale argues the power structure of Gilead also analyses the feminine roles that support and allow the suppression of other women. Placing the novel in the contexts of Atwood's career, feminism, and dystopian literature, provides a fuller understanding of how the novel functions as an expression of the divergence of women. Margaret Atwood focuses on the problems such as gender equality and the dangers of a hierarchical- structured system for women's oppression. Her focal point is to mention the subservience of women in a male-dominated society and women's enslavement in a consumer society in which women's body is handled as object, an instrument and also as adorable item. Margaret Atwood is one of the foremost vivid writers in current Canadian literature. She has vigorously contributed to Canadian politics and its cause. Her works are mostly associated with social and political issues. She contemplates the relation between men and ladies and human basic rights. the topic of gender is the author's major concern. She depicts the ladies in her novels that always search for their identity which is lost within the male-controlled societies. Oppression of ladies is another theme for her novels and it may be seen evidently in her writings. She encounters the lower position of girls in society. Atwood's images of gender, the mistreatment and coercion of ladies, predominantly women's bodies. She signifies the misery of her female characters limited in their feminine roles in her novels. Moreover, femininity is the main fear for examining The Handmaid's Tale. In Gilead society, women are depressed about their freedom and ordered to serve the state in numerous ways and functions.

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2. **Dr.M.Usha Bharathi,** "Exploring the Theme of Human – Animal Kinship in Margaret Atwood's Oryx and Crake", Shanlax International Journal of English, Google Scholar, Impact Factor:4.110, https://doi.org/10.34293/english.v10iS1-Jan2022.4735 , P-ISSN NO: 2320-2645, E-ISSN NO:2582-3531, January 2022, Page No.67-69.

Abstract:

Oryx 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 'Oryx 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
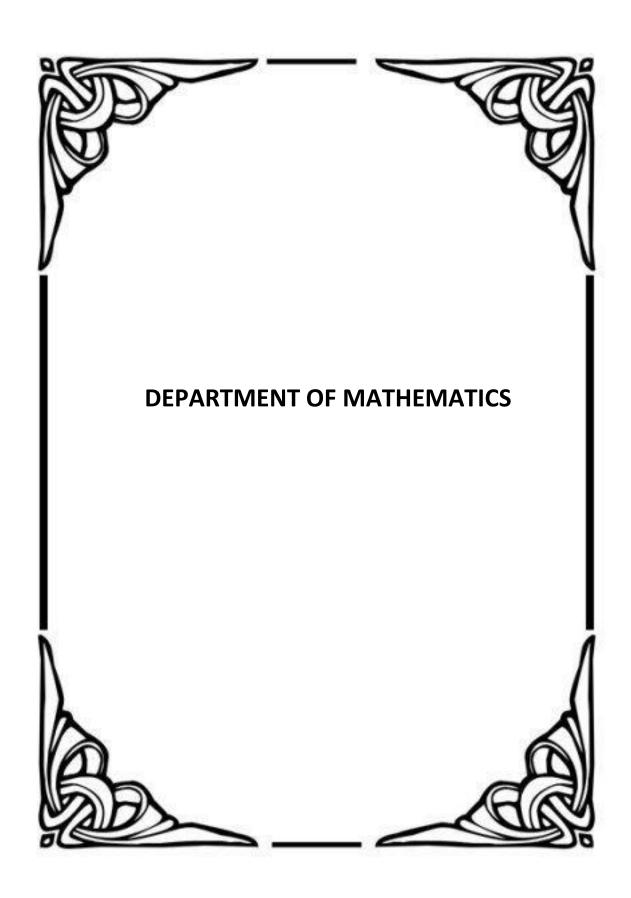
the novel is that the pigoons that Jimmy's father helps to make as a genetic engineer at the Organ Inc Farms Compound. The novel is setting by post-apocalyptic and narrates the story of mankind's demise as results of a worldwide epidemic deliberately caused by the idealistic scientist Crake. This novel highlights how the Crakers, a scientifically created race meant to out pace humanity, take over man's place.

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3. **Ms.P.D.Mary Portia,** "An Inquist Study on sufferings of Daltin Bama's Karukku", Shanlax International Journal of English, Google Scholar, Impact Factor:4.110, https://doi.org/10.34293/english.v10iS1-Jan2022.4728 , P-ISSN NO: 2320-2645, E-ISSN NO:2582-3531, January 2022, Page No.44-46

Abstract:

Kamala Markandaya is one of the best of contemporary Indian novelists. Her novels are remarkable for their wide range of experience. She has been most successful and impressive, in dealing with the problems of the educated middle class. She has a gift in particular for delineating the self-imposed laceration of the dissatisfied. Women in the novels of Kamala Markandaya are the victims of social and economic pressures and disparities. However, they raise above all these and cross the barriers of discrimination only for the larger concepts of universal love and concord. Indeed, their vitality, both physical and emotional is appreciable. Markandaya's characters belong to the different strata of society viz., peasants, and middle class educated women as well as from the royal families. Nevertheless the common thread in all her women characters is that the quest for autonomy for the self, coupled with nurturance for the family They also confront with several obstacles emerging mainly from the irregularities in the social system along with economic difficulties. They develop a mature vision of life when they grapple with these forces. Though the desire of autonomy and nurturance leads to disillusionment at every stage, the women characters remain form without losing courage. Kamala Markandaya's women are in search of something positive. She portrays a gloomy scenario of Indian life due to changes in social, economic and political spheres. She believes that togetherness and mutual understanding can create a meaningful existence for mankind. The paper attempts to throw light on the identity crisis of the women characters in The Golden Honeycomb.

DEPARTMENT OF MATHEMATICS

DEPARTMENT OF MATHEMATICS

1. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "Observations on the Paper Entitled, Integral Solutions of Ternary Quadratic Equation $X^2+Y^2=Z^2-4$", International Journal of Current Science (IJCSPUB),UGC Care, Peer-reviewed Journal, Impact Factor:8.17, https://journals.indexcopernicus.com/journal/33084 ISSN NO:2250-1770, Volume 12, Issue 1, January 2022 Page No:401-406.
   Abstract:
   This paper illustrates the process of obtaining different sets of non-zero distinct integer solutions to the non-homogenous ternary quadratic Diophantine equation given by $x^2+y^2=z^2-4$.

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2. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "Homogeneous Quadratic equation with three unknowns $z^2=6x^2-2y^2$", International Journal of Enhanced Research in Science, Technology & Engineering, UGC Care, Impact Factor:7.957, http://www.erpublications.com/ ISSN NO:2319-7463, Volume 10, Issue 12, December 2021, Page No-31-37.
   Abstract:
   In this paper, different sets of non-zero distinct integer solutions to the homogeneous quadratic equation with three unknowns given by $z^2=6x^2-2y^2$ are obtained. A few interesting relations among the solutions are presented. The formulae for generating sequence of integer solutions to the equation in title based on its given solution are exhibited.

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3. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "Remarks on the paper entitled "On Interesting Integer Triple"", International Journal of All Research Education and Scientific Methods (IJARESM),UGC Care, Google Scholar, Peer Reviewed journal, Impact Factor:7.429, www.ijaresm.com , ISSN NO:2455-6211, Volume 09, Issue 12, December 2021, Page No:1880-1882.
   Abstract:
   The process of obtaining different choices to integer triples (a,b,c) such that In each triple each of the following expression a+b, a+c, b+c, 2(a+b+c) represents a nasty numbers illustrated.

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4. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the Homogeneous cone $z^2=74x^2+y^2$", International Journal of Research Publications and Reviews, Google Scholar, Impact Factor:5.536, www.ijrpr.com, ISSN NO:2582-7421, Volume 03, No.1, January 2022, Page No:555-563.
   Abstract:

The Homogeneous ternary quadratic equation given by $z^2=74x^2+y^2$ is analyzed for its non-zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. Also, formulae for generating sequence of integer solutions based on the given solutions are presented.

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5. **Dr.V.Praba,** "Integral solution of the Homogeneous Ternary cubic equation $x^3+y^3=52(x+y)z^2$", An International Peer Reviewed Journal of Physical Science, Acta Ciencia Indica, Volume XLVII-M, No.1 to 4, 49 September 2021 Page No:49-56.

Abstract:

The cubic homogeneous ternary equation $x^3+y^3=52(x+y)z^2$ is analyzed for its non-zero integral solutions. A few interesting relations between the solutions and special numbers are exhibited.

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6. **Dr.V.Praba,** "Equivalence Colouring of Graphs", International Academy of Sciences, Engineering and Technology, Web of Science, Impact Factor:3.58, https://www.iaset.us/ ISSN NO (P):2319-3972, ISSN NO(E):2319-3980, Volume 10, Issue 2, July – December 2021, Page No.65-70.

Abstract:

Let $G=(V,E)$ be a simple and undirected graph. A proper colouring of the vertices of $V(G)$ is an assignment of colours to the vertices of G such that adjacent vertices receive different colours. A proper colouring of G induces a partition of $V(G)$ into independent sets. The minimum cardinality of a proper colour partition of G is called the chromatic number of G and is denoted by $\lambda(G)$. if in a proper colour partition of G, the union of any two colour classes induces an acyclic subgraph, then the colouring is called acyclic colouring of G. {[4], [5], [6]}. If instead, the union of any two colour classes in a proper colour partition induces a disjoint collection of stars, the resulting proper colour partition is called a star partition. {[6]}. A subset S of $V(G)$ is called an equivalence set if the subgraph induced by S is component wise complete. In this paper, a study of proper colour partition in which the union of any two colour classes induces an equivalence set is initiated.

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7. **Dr.S.Vidhyalakshmi, Dr.N.Uma Maheshwari, Ms.M.Revathi, Dr.M.A.Gopalan,** "On Finding Integer solutions to the ternary quadratic Diophantine equation $2(x^2+y^2)-3xy=43z^2$", International Journal of Current Advanced Research, Scopus, Google Scholar, Impact Factor:6.614, www.journalijcar , ISSN NO:O:2319-6475, ISSN NO:P:2319-6505, Volume 10, Issue 11(A), November 2021, Page No:25561-25564

Abstract:

The homogeneous ternary quadratic equation given by $2(x^2+y^2)-3xy=43z^2$ is analyzed for its non-zero distinct integer solutions through different methods. Also,

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

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8. **Dr.N.Umamaheshwari,** "Stochastic Modeling for using A Cross Cultural Analysis of Salivary Cortisol in Breast Cancer Survivors", International Journal of Research in Engineering and Science (IJRES),Google Scholar, Impact Factor:3.541, www.ijres.org , ISSN (Online):2320-9364, ISSN (Print):2320-9356, Volume 10, Issue 2, 2021, Page No.27-36.

Abstract:

Examined whether Chinese and white women with and without a history of breast cancer exhibit differences in physiological and psychological stress profiles. Diurnal and reactive salivary cortisol profiles and psychological stress patterns of 41 breast cancer survivors and 58 healthy women were assessed. Breast cancer survivors displayed a blunted acute cortisol response but there was no main effects of ethnocultural membership using the sharp large deviation for the energy of α-Brownian motion

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9. **Dr.J.Shanthi, Dr.M.A.Gopalan,** "On the Bi-Quadratic Diophantine Equation with four Unknowns $xy(x+y)=3zw^3$", Stochastic Modeling & Applications, UGC Approved Journal, Impact Factor:0.588,https://www.mukpublications.com/ ISSN NO:0972-3641, Volume 25, No.3, (July-December), Special Issue 2021 Part-3, December 2021, Page No.2007-2010.

Abstract:

The non-homogeneous biquadratic equation with four unknowns given by $xy(x+y)=3zw^3$ is analyzed for its patterns of non-zero distinct integral solutions. A few interesting relations between the solutions and special polygonal numbers are exhibited.

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10. **Dr.J.Shanthi, Ms.T.Mahalakshmi, Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the homogeneous cone $z^2=14x^2+y^2$, Stochastic Modeling & Applications, UGC Approved Journal, Impact Factor:0.588, https://www.mukpublications.com/ , ISSN NO:0972-3641, Volume 25, No.3, (July-December), Special Issue 2021, Part-3, December 2021, Page No.2021-2029.

Abstract:

The homogeneous ternary quadratic equations given by $z^2=14x^2+y^2$ is anlaysed 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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11. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the Transcendental Equation $\sqrt[3]{y^2 + x^2} = z^6$" International Journal of Advanced Multidisciplinary Research and Studies, Google Scholar, http://www.multiresearchjournal.com/ , ISSN NO: 2583-049X, November 2021, Page No.41-44.

Abstract:

The Transcendental equation with three unknowns involving distinct integer solutions. A few properties between the surd represented by the Diophantine equation solutions and special figurate numbers are presented. $\sqrt[3]{y^2 + x^2} = z^6$ is considered for its patterns of non-zero.

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12. **Dr.N.Umamaheshwari, Ms.V.Bahavathi,** "Observations on the Integer solutions of the positive pell equation $y^2=15x^2+21$", International Journal of Research Publication and Reviews, Google Scholar, Impact Factor:5.536, www.ijrpr.com , ISSN NO:2582-7421, Volume 03, No.2, February 2022, Page No.219-234.

Abstract:

The binary quadratic equation $y^2=15x^2+21$ 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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13. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On Homogeneous Quadratic with five unknowns $10w^2-x^2-y^2+z^2=t^2$", International Journal of Research and Analytical Reviews (IJRAR), UGC Approved Journal, Peer Reviewed Journal, Impact Factor:7.731, www.ijrar.org , E-ISSN NO:2348-1269, P-ISSN NO:2349-5138, Volume 9, Issue 1, February 2022.

Abstract:

The homogeneous quadratic Diophantine equation with five unknowns given by $10w^2-x^2-y^2+z^2=t^2$ is analyzed for determining its non-zero distinct integer solutions through employing linear transformations.

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14. **Dr.S.Vidhyalakshmi, Dr.M.A.Gopalan,** "On the Homogeneous Cone $z^2=(10k^2-10k+14)x^2+y^2$", International research journal of Education and Technology, Google Scholar, Impact Factor:7.429 , https://www.irjweb.com/ , ISSN NO:2581-7795, volume 04, Issue 02, February 2022, Page No. 01-10.

Abstract:

The homogeneous ternary quadratic equation given by $z^2=(10k^2-10k+14)x^2+y^2$ is analyzed for its non- zero distinct integer solutions through different methods. A few interesting properties between the solutions are presented. Also, formulae for generating sequence of integer solutions based on the given solution are presented.

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15. **Dr.S.Vidhyalakshmi, Dr.J.Shanthi, Dr.M.A.Gopalan,** "Observation on the paper entitled Integral solution of the Homogeneous ternary cubic equation $x^3+y^3=52(x+y)z^2$", International journal of Multidisciplinary research (IJMR), Peer Reviewed Journal, Impact Factor : 8.047, https://eprajournals.com/IJMR/article/6653/abstract , ISSN NO:2455-3662, Volume 8, Issue 2, February 2022 Page No.266-273.

Abstract:

This paper concerns with the problem of obtaining non zero distinct integer solutions to the homogeneous ternary cubic equation $x^3+y^3=52(x+y)z^2$. Also, formulae for generating sequence of integer solutions based on the given solution are presented
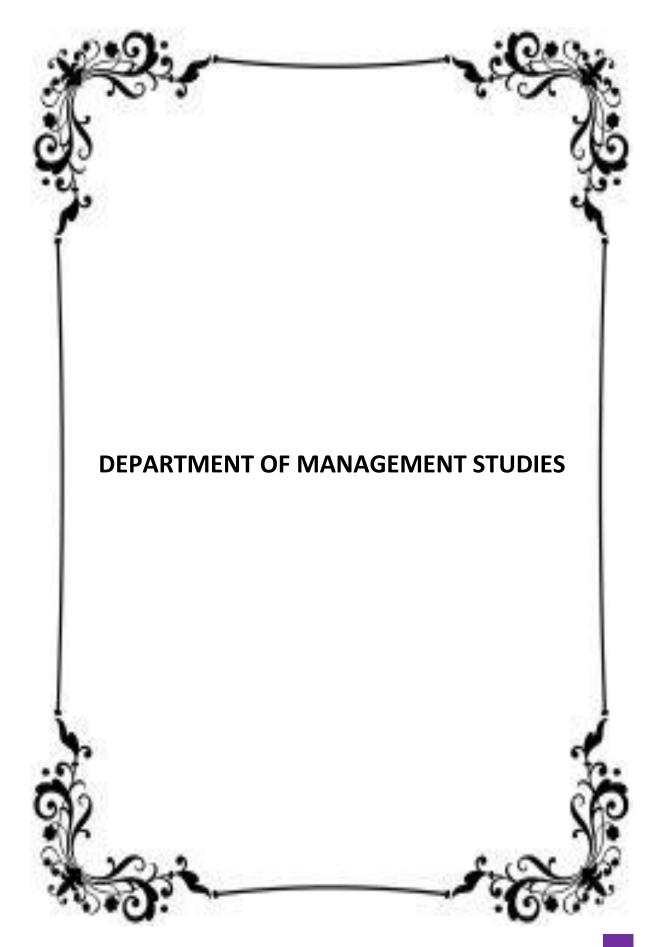
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16. **Dr.V.Praba**, "ss-Excellence in Graphs", South East Asian J. of Mathematics and Mathematical Science, ISSN NO (Online):2582-0850, ISSN (Print) : 0972-7752, , UGC CARE, http://rsmams.org/download/articles/2_17_3_688893991_EXCELLENCE%20IN%20GRAPHS_split_1.pdf Volume 17 No.3, 2021, Page No.299-312.

Abstract:

Let G be a simple graph with vertex set V (G) and edge set E(G). A subset S of V (G) is called a semi-strong set abbreviated as ss-set if $|N[v]\cap S| \leq 1$ for all v in V (G). This concept was introduced by E. Sampathkumar in the paper titled Semi-strong chromatic number of a graph. Any ss-set has hereditary property. That is, a subset of an ss-set is an ss-set. So, an ss-set is maximal iff for any u ∈ (V −S), there exists v ∈ V (G), v 6= u such that v is adjacent with u and a vertex of S. Excellence is studied with respect to several parameters like domination. A vertex u is α-good with respect to the parameter α if u belongs to a minimum (maximum) α-set of G. A graph G is α-excellent if every vertex of G is α-good. A graph G is ss - excellent if every vertex of G is ss - good. ss - excellence and ss - just excellence are studied in this paper
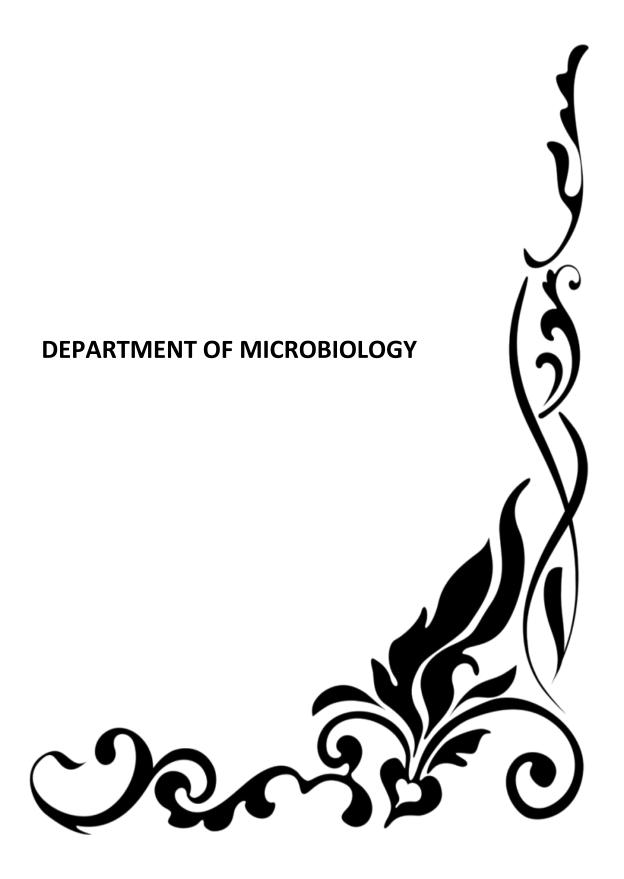
DEPARTMENT OF MANAGEMENT STUDIES

DEPARTMENT OF MANAGEMENT STUDIES

1. **Dr.J.Francis mary,** "Performance Evaluation of Nifty Financial Services Companies", International Journal of Research Publications and Reviews, Google Scholar, Peer Reviewed Journal, Impact Factor:5.536, www.ijrpr.com , ISSN NO:2582-7421, Volume 2, Issue 09, 2021 Page No.265-273.

Abstract:

The two side of Investment is -Risk and Return. This paper attempt to analyze the performance of Nifty Financial Service Companies. The performance evaluation of Nifty financial services is carried out through relative performance index, risk-return analysis, Treynor's ratio, Sharpe's ratio, Jensen's measure. The data used are monthly high of NAVs. The source of data is website of National Stock Exchange (NSE). NSE has been a driving force of capital market in India. It plays a critical role with regulators, government and market participants in development of capital markets 2019 marks NSE's silver jubilee their journey. Study period is 2014-2015 to 2018-2019. This study focus with a sample of 5 schemes for computing relative performance index.
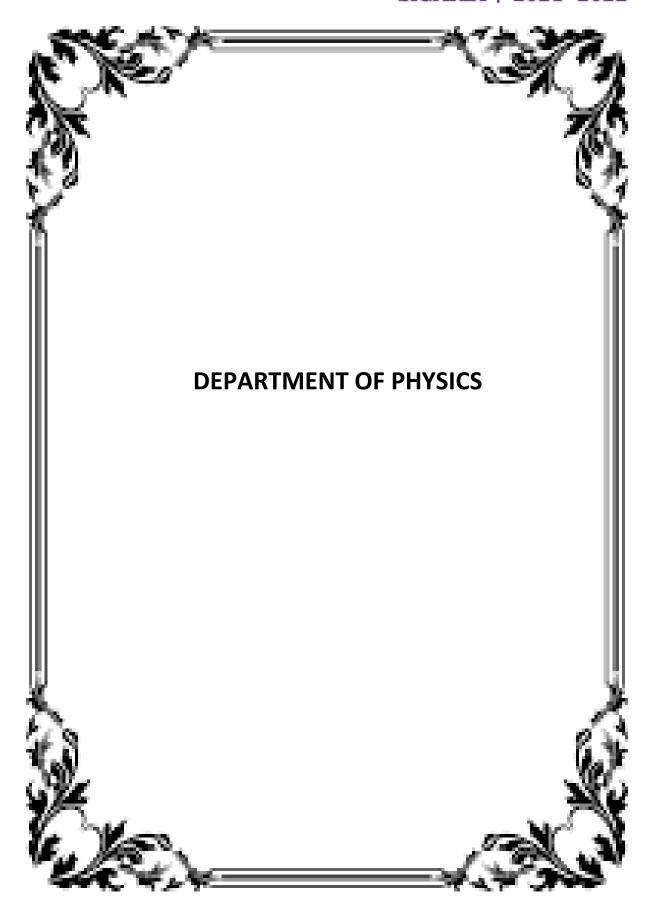
DEPARTMENT OF MICROBIOLOGY

DEPARTMENT OF MICROBIOLOGY

1. **Ms.K.Chitradevi,** "In vitro study of antioxidant, antidiabetic and antiurilithiatic activity of synthesized silver nanoparticles using stem bark extracts of Hybanthus enneaspermus", Elsevier-Biocatalysis and Agricultural Biotechnology, Scopus, Impact Factor: 3.281 https://doi.org/10.1016/j.bcab.2021.102219 , ISSN NO: 1878-8181, Volume 38, November 2021.

Abstract:

Diabetes mellitus is an endocrine disorder that affects 85% of the people because of higher sugar level in blood. Due to this metabolic disorder and improper function of organs especially kidney results in urinary tract infection causing struvite urinary stone. So, in the present study was carried out to study the green synthesized silver nanoparticles using *Hybanthus enneaspermus* stem bark extracts on antioxidant, antidiabetic and antiurolithiatic activity under *in vitro* conditions. By the treatment of aqueous solution of 5 mM silver nitrate (AgNO3) with stem bark extracts, silver nanoparticles could be quickly synthesized within 1 h. These silver nanoparticles were characterized using UV–Visible spectroscopy, Fourier Transform Infrared Spectroscopy (FT-IR), Transmission Electron Microscope (TEM), X-ray diffraction (XRD) and Dynamic Light Scattering (DLS) for further confirmation. TEM analysis found that the silver nanoparticles are spherical in shape. X-ray diffraction confirmed that silver nanostructure exhibit a face centered cubic crystal structure. DLS showed that the nanoparticles size is 644.2 nm. By increasing the concentration of silver nanoparticles, weight of the formed crystals reduced from 0.94 g to 0.13 g in struvite crystals and analysed by FTIR analyses. This multidisciplinary approach showed a better percentage of inhibition such as antioxidant, antidiabetic and antiurolithiatic activity of silver nanoparticles.
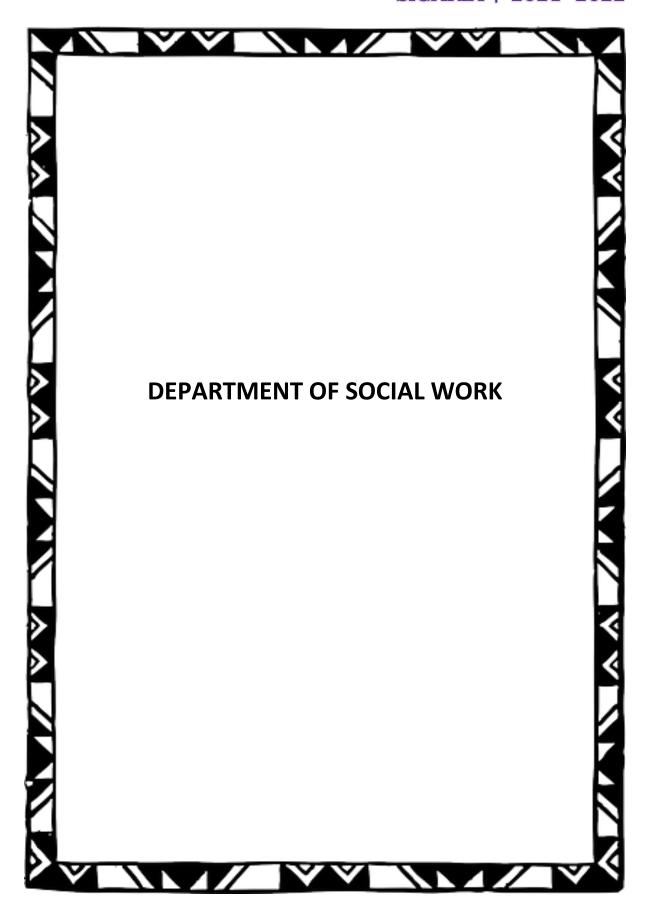
DEPARTMENT OF PHYSICS

DEPARTMENT OF PHYSICS

1. **Ms. Anitha Ezhil Mangaiyar Karasi,** "Effects Of Subtrate Temperature on Structural, Electrical and Optical Properties Of Sprayed Tin Selenide Thin Films Applicable For Photovoltaic Measurements", ECS Journal of Solid State Science and Technology,Scopus, Web of Science, Google Scholar, Impact Factor: 2.070, https://iopscience.iop.org/ ISSN NO:2162-8777, Volume 11, Number 2, February 2022.

Abstract:

Thin films of Tin selenide (SnSe) have been prepared on glass substrates at different temperatures in the range of $250^{o}C$ -$375^{o}C$ in steps of $25^{o}C$ for optimization were discussed. The deposited in tin selenide thin films were characterized using   X-ray diffraction analysis (XRD), Elemental dispersive X-ray analysis (EDAX), scanning electron microscopy (SEM), optical absorption Photoluminescence (PL), Raman spectroscopy and electrical measurements. From XRD analysis a single-phase tin selenide thin film having orthorhombic crystalline structure with crystallite size of 17nm to 62nm were investigated. The surface morphology revelaed the presence of uniformly distributed spherical grains of SnSe thin films without pores and voids. Optical absorption spectrum revealed a direct band gap of 1.15eV and having very high absorption conefficient ($^{>}10^{4}$/cm) was calculated. The Raman scattering analysis confirmed the presence of B_3g and Ag vibrational modes of SnSe thin films. PL studies revealed a strong luminescence peak near-band-edge (NBE) emission at 785 nm due to recombination of bound excitions. Photoconductivity characteristics of SnSe thin films were due to the existence of continuous distribution of localized states in the band gap data. Thus tin selenide thin films were used as an absorber layer in the photovoltaic applications.

DEPARTMENT OF SOCIAL WORK

DEPARTMENT OF SOCIAL WORK

1. **Dr.K.Shenbaham,** "Effects of Training and Development on Employee Performance on Glosil Internation Private Limited, Coimbatore, TamilNadu", International Journal of Creative Research Thoughts (IJCRT), www.ijcrt.org , UGC Approved Journal, Peer Reviewed Journal, Google Scholar, Impact Factor:7.97, ISSN NO:2320-2882, Volume 10, Issue 02, February 2022, Page No.b41-b50.

Abstract:

Training and Development lead to improve success and or more encouraging attitude toward profit direction, improve the job information and skill at all level of the association, improve the morale of the worker and help the workers classify with executive goal. According to Gary Dressler, training is the procedure of education new recruits the essential skills they require to execute their jobs. Tukunimulongo 2016 too said that the on the job the stage a big role in improving the worker presentation and output. The respondents (100%) of the two under the quarterly training program is organized in the company. To study on socio-demography – based ground of the respondent. To recognize the availability of training and development performance. To investigation the level surface of be acquainted with on training and proceed performance among the employees. To estimate the effects of training and development on their concert to gather in sequence on tools of training and development show to induce the respondents.

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2. **Dr.K.Shenbaham,** "A Study on working women Parental Investment towards child Rearing", International Journal of Creative Research Thoughts (IJCRT), www.ijcrt.org , UGC Approved Journal, Peer Reviewed Journal, Google Scholar, Impact Factor:7.97, ISSN NO:2320-2882, Volume 10, Issue 02, February 2022, Page No.b462-b472.

Abstract:

Parenting or child rearing is the process of promoting and supporting the physical, emotional, social, and intellectual development of a child from infancy to adulthood in many cases, orphaned or abandoned children receive parental care from non-parent or non-blood. "A study on work family balance and challenges faced by working women", here by author has described the work – life balance and the challenge a woman faces in her every day schedule how she keeps a BAL. To study on demographic details of the respondents. To study about the physical and psychological problem of respondents. To analyze the causes of poor parental investment among the respondents. To know the problems of on child rearing and how they overcome among the respondents. To enhancing your child's self-esteem. Catch kids being upright. The parent must set bounds and be reliable with your chastisement they should be spent time for your children. The parent must be a

good role model Given more reputation to communication. Be flexible and eager to adjust parenting elegance.

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3. **Dr.K.Kavitha Maheswari,** "Socio-Economic Status of Rural women", Infokara Research, http://infokara.com , UGC-Care, Impact Factor:5.3, ISSN NO:1021-9056, Volume 11, Issue 01, January 2022, Page No.46-52.

Abstract:

Women are considered the main strength and unity force of the family. Despite their great responsibility to family and society, they also face many obstacles that weaken their potential. They collected only a small part of the opportunities for improvement, and they often stay away from education, better jobs, private actions in the political system, and better healthcare and decision - making. This study is concerned with the socio-economic conditions of rural women. The researcher adopted the descriptive research design concerned with describing the various characteristics of the study population pertaining to their socio-economic status. The universe of this study constituted of rural married women of Punjab Sangenthi village formed the universe of this study. The data of the population were collected from the village administrative office. The findings related to the rural women's socio-economic independence, educational attainment, decision making capacity and political participation were discussed in the full paper.

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4. **Dr.K.Kavitha Maheswari,** "Job Satisfaction among Women Teachers", Infokara Research, http://infokara.com , UGC-Care, Impact Factor:5.3, ISSN NO:1021-9056, Volume 09, Issue 05, May 2020, Page No.156-162.

Abstract:

Job Satisfaction is a motivating factor and an integration factor for the efficient performance of workers. It is equally a energy and morale booster. Job satisfaction refers to the positive attitude of the employee towards his job. It is related to the degree to which the employee's personal needs are fulfilled satisfactorily in the job situation. Thus, job satisfaction is the favorableness with which employees view their work and his working environment. Thus, job satisfaction is an expected outcome of positive job performance and involvement. High job satisfaction contributes positively to organizational commitment, job involvement, better physical and mental health and quality of work life and personal life to the employees.

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5. **Dr.E.Deepa,** "A Study on Stress Management and coping mechanism among married nurses", International journal of Research and Analytical Reviews (IJRAR), www.ijrar.org , UGC Care, Google Scholar, Peer Reviewed Journal, E-ISSN NO:2348-1269, P-ISSN NO:2349-5138, Volume 09, Issue 01, February 2022, Page No:446-451.

Abstract:

The American Medical Attendants Affiliation (ANA) states nursing, the assurance, advancement, and optimization of health and capacities, avoidance of illness and injury, alleviation of suffering through the conclusions and treatment of human reaction, and backing within the care of people, families, communities, and populations. Nursing is the security, advancement, and optimization of well-being and capacities, avoidance of ailment and harm, easing of enduring through the conclusion and treatment of human reaction and backing within the care of people, families, communities and populations.

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6. **Dr.K.Kavitha Maheshwari,** "Adolescent Adjustment among School students", Infokara Research, http://infokara.com , UGC-Care, Impact Factor:5.3, ISSN NO:1021-9056, Volume 09, Issue 05, May 2020, Page No.295-303.

Abstract:

Adolescence is a period of change in everyone's life. The stress associated with dynamism and development during this period is dealt by the adolescents in two ways, those are either change the behavior in a positive way, which is a process called adjustment, or in a negative way, which ends up to maladaptive behavior. Descriptive research design has been used in this study; descriptive research is concerned with describing the socio demographic characteristics along with the adolescent's adjustments. The universe of this study constituted the school students of private Higher Secondary School in Dindugul. The data were collected from the students from two grades such as 8th and 9th. Socio -demographic details of respondents were collected by using a self prepared questionnaire. Along with the self prepared questionnaire standardized Reddy's adolescent adjustment inventory (1964) was used to measure the adjustment among the adolescent school students. The findings of the study revealed that more than 1/4th of the respondents perceived low level of adjustments which is due to their low level of maturity to handle the life situations. Only 21.6 % of the respondents have high level of adjustment and having less adjustment oriented problems.

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7. **Dr.K.Kavitha Maheswari,** "Work life balance among women teachers", International Journal of Research and Analytical Reviews (IJRAR), www.ijrar.com, UGC CARE, Impact Factor: E-ISSN No:2348-1269, P-ISSN NO: 2349-5138, Volume 9, Issue 1, February 2022, Page No.695-700.

Abstract:

Women are the centre of any development process especially in the development of a nation. They control over most of the non-monetary economy and take an important part in the money economy. A working women has a more interesting life than one who does not work. It is a very powerful task to balance the professional responsibilities in one hand and the family commitments on the other hand. The researcher used descriptive research design for this study and it describes the variables of the selected population with special reference to their work life balance and how socio-demographic variables influence work life balance of the respondents. The findings of the study revealed that more than half of the respondents perceived low level of work life balance, low level of work interference with personal life, personal life interference with work and personal and work enhancement. The statistical analysis revealed that the demographic variables have no influence over work life balance of the respondents.

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Abstract:

Migrant labour, casual and unskilled workers who move about systematically from one region to another offering their service on a temporary, usually seasonal, basis. Migrant labour in various forms is found in South Africa, the middle East, western Europe, North America and India. In Europe and the middle East, migrant labour usually has been recruited for urban rather than agricultural employment and involves longer periods of residence. In North America, migrant labour tends to be hired for farm work, primarily at harvest time. The demand for agricultural migrant labour stems from the seasonal nature of harvesting. In the Northern hemisphere, migrant labour moves seasonally from south to north following the harvest, while this pattern is reversed in the southern hemisphere. Most of these agricultural workers move in established patterns within these general directions, and their work typically involves tasks that are manual, repetitive and easily learned. As a result, migrant workers can have difficulty accessing loval health and social services and can be deprived of rights either because of their illegal status or because they lack easy recourse to the courts. The nomadic nature of migrant workers makes the regulation of their working