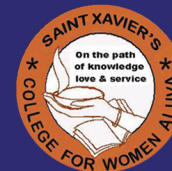


BOOK OF ABSTRACTS 2016-2017

**BASED ON
PAPER PRESENTATIONS**

ORGANISED BY



**RESEARCH PROMOTION COUNCIL
ST.XAVIER'S COLLEGE FOR WOMEN, ALUVA**

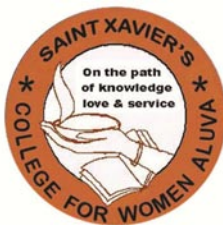
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Email: researchpromotioncouncil@gmail.com

CHAIRPERSON	ABOUT RESEARCH PROMOTION COUNCIL	ABOUT BOOK OF ABSTRACTS
Sr. Reethamma V. A Principal	<p>Research Promotion Council of the college was constituted in the year 2013 to promote and coordinate research activities in the College. Objectives of the research Promotion Council are to create passion among the students for research and innovation, to have periodic interactions with experts in various fields and as a forum for students and faculty members to present their academic findings. The Council also publishes a peer referred biannual interdisciplinary journal- Discourse. It aims to spread information in the field of science and humanities to the members of the academic community. Activities of the Research Promotion Council for the year 2016-17 were inaugurated by Dr. Gigi K Joseph, Assistant Professor, P.G. Department of Zoology, Nirmala College, Muvattupuzha on June 14, 2016. A 18 member council was constituted with Dr. Anu Anto, Assistant Professor, Department of Zoology as the coordinator and Dr. Linda Louis, Assistant Professor in Biochemistry as the Secretary.</p>	<p>One of the main objectives of the Research Promotion Council was to conduct paper presentation sessions every month organized by various departments of the College. During this academic year, seven paper presentation sessions and three talks by resource persons were conducted. 22 research papers both by the faculty and students were presented. The sessions covered a wide variety of topics like literature, economics, commerce, human rights, higher education, life sciences, physical sciences, chemical sciences, mathematics etc. This Book of Abstracts is based on the paper presentations conducted during the year 2016-17.</p>
CHIEF EDITOR		
Dr. Anu Anto Assistant Professor Zoology		
ASSOCIATE EDITOR		
Dr. Linda Louis Assistant Professor Biochemistry		

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GO WILD FOR LIFE

Gigi K Joseph

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In his talk conducted as a part of Observation of World Environment Day, the speaker stressed the need for preserving Earth's precious biodiversity and also pointed out the threats looming over the conservation of the Earth's valuable resources. The loss of habitat as a result of farming, mining and new developments has dramatically shrunk the natural space available to wildlife. When people kill or take them from the wild, despite its protection leads to the depletion of these resources. He encouraged the students to have a deep understanding over the rich biodiversity of India and take action to safeguard them for future generations from the species you encounter in your daily life to those which faces extinction around the globe.

REALISM IN CHICKEN SOUP WITH BARLEY

Aileen Joseph N

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This paper aims to analyse Arnold Wesker's Chicken Soup with Barley as a realistic play. The play focuses on the life of a working class socialist Jewish family, living in 1936 London and traces the downfall of their ideals in a changing world, parallel to the disintegration of the family until 1956. It's an attempt to bring forth the struggles of survival of a socialist family on the wake of a capitalist society. The whole question of existence of Jewish community in Europe during the 1950's is also analysed.

PHYTOCHEMICAL STUDIES ON SELECTED SPECIES OF *ARISTOLOCHIA*

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The genus *Aristolochia* with around 500 species comes under the family Aristolochiaceae is distributed mostly in the tropical, subtropical and Mediterranean regions. In India, *Aristolochia* species are used for medicinal purposes especially by the tribes. The proper documentation of the genus is not yet accomplished.

The phytochemical studies dealt with the analysis of essential oil composition and aristolochic acid I concentration in four selected species of *Aristolochia*; *A. indica*, *A. tagala*, *A. ringens* and *A. krisagathra*. Oil analysis was carried out using GC-MS and aristolochic acid was quantified by HPLC. Essential oil analysis showed that there were marked variations in the oil composition with seasons and plant parts used for the study. A stable oil yield was observed attributed to the localization of oil within cells. The oil of *Aristolochia* can be regarded as caryophyllene type as this sesquiterpene was found in the oil irrespective of plant parts and seasons. Cluster analysis with oil composition showed that the findings were not in congruence with the conventional taxonomy. Aristolochic acid content also showed significant variations with species and seasons. Hence, the use of such metabolites for taxonomic classification has to be done prudently.

THE INFLUENCE OF GOTHIC FEATURES IN ENGLISH LITERATURES

Alisha Catherine

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Gothic is a literary genre, and a characteristically modern one. Gothic novels are full of uncanny effects- simultaneously frightening, unfamiliar and also strangely familiar. Supernatural and unexplicable events are crucial to the plot of a gothic novel. Often they act as the backbone of the plot and many of the circumstances. In this paper, an introduction on Gothic Literature, list of novels of Gothic genre, elements of Gothic novel and how Gothic features influence the setting of the play is elaborated.

STEREOTYPING THE MALE MACHISMO IN CHANDUPOTTU

Mahima Roselin Varghese

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Lal Jose's 2005 Malayalam movie Chandupottu rose to fame for its portrayal of an effeminate male protagonist. This was a revolutionary treatment as far as Malayalam movies were concerned. It challenged the concept of the industry's obsession with macho heroes. The representation of this transvestite character however does not justify their identity and fails to acknowledge the feminine attributes of the transvestite protagonist. On the other hand, it stereotypes the male machismo and brings the movie to a conclusion by transforming the effeminate character into the typical male which fits into the patriarchal society.

If the movie makers intended to fight the prejudices and stigma attached to such people, it is but a complete failure. It is like any other mainstream Malayalam movie with all its typical recipes catered to the mass. This paper aims to analyse how the movie failed to represent the transvestite character's identity truthfully while it stereotyped the machismo and masculine notions in line with the politics of a patriarchal society.

SERPENT AS A METONYMIC METAPHOR IN NAGA-MANDALA

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Literature developed in close relation to myth as exemplified by those myths held and venerated by individual, ethnic and national groups. Thus Indian literature is shot through with mythic materials, characters, subject matter, plots and action. The contemporary artists like Girish Karnad deliberately reach back to retrieve revive and recycle the myths of their region. Serpent in Indian mythology symbolizes the intercultural and religious phenomenology. The metaphoric representation of serpent as metonymy is followed with its inbred images such as serpent haired, serpent engirdled haridans, ophidian incarnation and such other images.

This study aims to explore the various aspects of mythical elements and studies the interface and interaction between myth and history. The objective is to examine the cataclysmic results produced in the play, Naga-Mandala by Girish Karnad where myth takes over reality. The study gives a glimpse of the biography of the author and deals with the wide connotations of the terms 'metonym' and 'metaphor'. It also focuses on the manner in which the mythical pattern and plot lead to the empowerment of the female protagonist. The study summarizes by affirming the areas discussed above regarding the ambivalence between natural and super-natural through a complex metaphor.

ISOLATION OF LIPASE PRODUCING BACTERIA AND THEIR APPLICATION IN OIL AND GREASE DEGRADATION

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Microorganisms have enzyme systems to degrade and utilize diesel, oil and grease as a source of carbon and energy. The growth and proliferation of oil utilizing microorganisms in polluted soil is greatly influenced by availability of nutrients and their hydrocarbon clastic property. The percentage of hydrocarbons can be determined by Gravimetric method. The present study was designed for gravimetric analysis of oil degradation by bacteria.

The rate of oil and grease biodegradation seems to be rapid due to the fact that the microorganisms in the soil have ability to utilize the oil and grease in the polluted water. The hydrocarbon utilizing microorganisms isolated from soil include *Staphylococcus* *sps.*, *Pseudomonas* *sps.*, *Micrococcus* *sps.* and *Corynebactreium* *sps.* *Staphylococcus* *sps* and *Pseudomonas* *sps* showed good results in degrading oil and grease in the polluted water in this study.

GREEN AUDIT-A CASE STUDY OF ST. XAVIER'S COLLEGE FOR WOMEN, ALUVA

**Athira Venugopal, Archa Vijay, Unnimaya V B,
Lamiya K K, Naiji Josephine A J and Nisha P**

Department of Botany
St.Xavier's College for Women, Aluva

The term 'Green Audit' is the process of assessing the environment impact of an organization, process, project or product. Green auditing is known by another name Environmental auditing. It is a means of assessing environmental performance (Welford, 2002). It involves the systematic examination of the interactions which could be gaseous emission to air, land and water; legal constraints the effects on neighboring communities; landscape and ecology. The auditing is done in a systematic approach and is conducted objectively. The auditor obtains and evaluates evidence that concerns the assertions about economic actions and events. The main objective of the auditor is to communicate the results to the interested users. The Green audit practically involves energy conservation, use of renewable resources, rainwater harvesting, efforts of carbon neutrality, hazardous waste management and E-waste management. Green audit is linked to sustainable development process. Green audit and sustainable development process help to reduce the wastage and associated cost as well as increases the product quality. There is a relationship between Green audit and sustainable development of any business organization. Strong green audit can help to achieve the sustainability. A well-defined

framework can help to achieve the goal set by an organization. It is necessary to conduct a Green audit in college campus because students become aware of the necessity to save our planet. The national and local governments take in a lot of effort for maintaining the planet green. Therefore, Green audit is the most efficient and ecological way to solve environmental problems.

CORPORATE SOCIAL RESPONSIBILITY- A STUDY ON SELECTED KERALA BASED COMMERCIAL BANKS

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Corporate social responsibility (CSR) has become a major topic of discussion over the past two decades. Many studies have favored it, and said that it was even a necessity for the corporates to survive in today's social conditions. At the same time, many including Friedman believed that the sole responsibility of corporates was making profits and interfering in social issues was not the job of corporates. When Corporate Social Responsibility was made mandatory in India there was a discussion whether it is a boon to the society or burden in the form of an additional cost to the corporates. Kerala is a state where financial inclusion is taking place at its very best. Thus we can understand the relevance of banks in Kerala's society. It is in this scenario, a study about CSR practices of banks in Kerala is being done. The problem of this study is to find if the implementation of CSR practices by banks in Kerala creates a win-win situation between the banks and the society. The study focusses on the CSR initiatives of the banks as well as the society's perception about these practices of the banks. Two major Kerala based commercial banks, Federal bank and South Indian bank are used in the study. The CSR initiatives, programs, policies and models of these banks are involved in this study. Personnel interviews with top executives of the banks as well

as the beneficiaries of the CSR practices are done in order to find out if these practices have benefited both the parties. Secondary data are also collected from financial statements and other publications of the banks for the study.

ULLOOR AND THE INDO-ANGLIAN LITERATURE

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An attempt is made to trace the influence on Indo-Anglian literature made by Ulloor S Parameswara Iyer, the most erudite of the poetical trinity of Kerala. He started writing in the beginning of the 20th century. His English essays are the finest specimens of this delightful form. The range of their themes is wide and varied. Life, literature, politics, art, mythology, philosophy, history, culture etc are a few of the topics on which he has written widely. His prose style is easy, graceful and flexible. "A Daughter of Travancore," "Navarathri," "Letitia Elizabeth London," etc are some of his essays. His English poems are examples of rare poetic instinct and flawless craftsmanship. The most important one is his translation of "Mayoorasandesha" called "The Peacock Messenger." But it is not so well known that his versatile genius also gave his might to lay foundation to another growing literature, the Indo Anglian literature.

SPECTROSCOPIC ANALYSIS OF ZINC DOPED COBALT FERRITE NANOPARTICLES

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Zinc doped cobalt ferrite spinel nanoparticles were prepared by the sol gel synthesis. All the samples were characterized by using X-ray diffraction technique (XRD), UV-visible diffuse reflectance spectroscopy, Fourier transformed infrared (FTIR) spectroscopy. The XRD patterns confirmed the formation of single phase inverse spinel structure without impurities. The lattice parameter increased from 8.315 to 8.354 Å with increasing Zn²⁺ concentration. The average crystallite size obtained by Scherrer method varies between 17.191 nm and 13.699 nm. The oxygen parameter decreases with increase in zinc ion concentration. The X-ray densities for different samples were estimated and are in good agreement with the reported value. The band gap energy values obtained from UV- visible analysis, increases with an increase in zinc ion concentration (2.276 –2.325 eV). FTIR spectrum analysis were carried out to confirm the spinel phase formation and to ascertain the cation distribution in the ferrite phase. The absorption spectra showed two significant absorption bands between 350 and 4000 cm⁻¹, which is attributed to tetrahedral (A) and octahedral (B) sites of the spinel phase.

AVATAR THROUGH CULTURAL LENS

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St. Xavier's College for Women, Aluva

Cinema, like any other representation, is a discourse. Its language produces the meaning that constructs a world of reality for the viewers. As mass media constitutes the public space, it is central in the construction of cultural values. Hence, it has come under the wide spectrum of cultural studies, and due focus is given to its cultural aspect. Cultural studies assume media culture to be political and ideological. Since it has the power to persuade people through its magical veneer of entertainment, media culture quite often transmits ideologies that reinforce oppressive structures of class, gender, sexuality and race.

The paper is an attempt to bring to surface the ideologies and political ideas hidden in Avatar, a Hollywood blockbuster by James Cameron. The movie comes under the category of science fiction, in which the hero is transformed to a new existence with the help of scientific advancements. The movie gives the feel of the glorification of nature as against the gruesome science; it seems to honour females by depicting Neytiri, the Na'vi female as the strong, power holding character against not- so -powerful menfolk; it creates an impression of allotting superiority to the indigenous people who has deep bonding with the secrets of nature as against the ignorant white man. An analysis of the political ideologies embedded in these representations will surface the inherent power politics.

The movie is not a celebration of nature as it appears to be. Rather it exhibits the power of science and its plethora of possibilities which may have stayed distant even from the wild imagination of laymen. Transforming a human soul into the body of an alien, and lending him an existence in another planet is something mind blowing which astonishes even the intelligentsia. Hence, under the veneer of glorifying nature in the other planet, Cameron drives home the spectacular power of technology into the minds of the viewers. The depiction of indigenous people as superior in understanding the mysteries of nature is also beguiling. Though this indigenous lot are one with nature and could easily understand its energy flow, they rely on Jake Sully, the man from the world of science to save them from their doom. It is Jake who is portrayed as the 'avatar' who comes to their world to redeem them with the divine love for humanity. The honour allocated to the female figures is also a strategy to veil the in depth exploitation of women as a whole. The commercialisation of female body is veiled intelligently by picturing the female protagonist Neytiri, the Na'vi female as an alien with a different dressing culture. But by depicting her as bare breasted with only a necklace and a loin cloth reiterates the voyeurism of the male viewers. Thus the paper endeavours to read the cinema "Avatar" anew in the light of cultural studies.

STUDY OF EXTRAGALACTIC RADIATION FROM LOCKMAN HOLE

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Department of Physics

St. Xavier's College for Women, Aluva

We have studied the diffuse UV emission from Lockman Hole using 23 Deep Imaging Surveys (DIS) of *GALEX* mission in order to quantify different components of diffuse UV radiation and search for extragalactic emission. The region is important due to the presence of minimal amount of gas and dust and the *GALEX* images cover more than 10 square degrees in the region. The UV emissions in the region are compared with Infrared 100 micron emission and we find a slight anti-correlation between UV and IR flux, which we attribute to the presence of extragalactic contribution in the diffuse background. Using the positional details of Spitzer - SERVS and SWIRE surveys, the contribution of extragalactic light was extracted as $192 \text{ photons cm}^{-2} \text{ sr}^{-1} \text{ s}^{-1} \text{ \AA}^{-1}$ in FUV and in $210 \text{ photons cm}^{-2} \text{ sr}^{-1} \text{ s}^{-1} \text{ \AA}^{-1}$ in NUV from the AB magnitude range of 17-27.

നാലാം ലോകത്തിലെ ചരിത്രാവബോധം

റ്റീനു സ്റ്റീഫൻ

മലയാള വിഭാഗം,

സെന്റ് സേവ്യേഴ്സ് കോളേജ്, ആലുവ.

ആധുനീകതയുടെയും ഉത്തരാധുനീകതയുടെയും പ്രതിനിധിയാണ് എൻ.എസ്. മാധവൻ. രണ്ടാം ലോകമഹായുദ്ധത്തിനു ശേഷം റഷ്യയിൽ സംഭവിച്ച രാഷ്ട്രീയ പരിണാമങ്ങളും കേരളത്തിലക്കാലത്തു നടന്ന നാലാം ലോകം എന്ന ചർച്ചയും ചേർത്തുവെച്ചു കൊണ്ടാണ് എൻ.എസ്. മാധവൻ നാലാം ലോകം എന്ന കഥ പറയുന്നത്. ശൂന്യാകാശത്തിൽ നഷ്ടപ്പെടുന്ന മനുഷ്യ ജീവനുകളെ സംബന്ധിച്ച സിദ്ധാന്തങ്ങൾക്കും ആഖ്യാന സാധ്യത തേടുന്നു. ഭൂമിയും ആകാശവും അല്ലാതെ പുതിയൊരിടത്തിന്റെ ആഖ്യാനം കഥയിലുടനീളം ഉണ്ട്. ശൂന്യത എന്ന നാലാം ഇടത്തിലേക്കുള്ള സഞ്ചാരമാണ് ഇവിടെ ആവിഷ്കൃതമാകുന്നത്. ബഹിരാകാശത്ത് ഒറ്റപ്പെട്ടുപോയ സഞ്ചാരിയുടെ മരണവും അത് അഴുകാതെ ഭൂമിയെ ഭ്രമണം ചെയ്യുന്നു എന്ന ‘ലോസ്റ്റ് കോസ്മോനട്ട് തിയറി’ എന്ന സിദ്ധാന്തത്തിന്റെ അടിസ്ഥാനത്തിലാണ് കഥാപരിസരം വികസിക്കുന്നത്. ഒരു പഴയ മുത്തശ്ശിക്കഥ മട്ടിൽ പറഞ്ഞുപോകുന്ന ഈ കഥ കമ്മ്യൂണിസ്റ്റ് പാർട്ടിയുടെ ചരിത്ര പശ്ചാത്തലത്തിന്റെ ഒരു പരിച്ഛേദമായിരുന്നു.

സൈബർ സാഹിത്യം മലയാളത്തിൽ

മരിയാ പോൾ

മലയാള വിഭാഗം,
സെന്റ് സേവ്യേഴ്സ് കോളേജ്, ആലുവ.

സാങ്കേതികരംഗത്ത് അനുനിമിഷം വൻ കുതിച്ചുചാട്ടം ഉണ്ടായി കൊണ്ടിരിക്കുന്ന, ഓരോ നിമിഷവും ലോകം പുതുതായി (വലുതായി) കൊണ്ടിരിക്കുന്ന ഒരു കാലഘട്ടത്തിലാണ് നാം ഇന്നു ജീവിക്കുന്നത്. അതോടൊപ്പം സാഹിത്യം കൈകാര്യം ചെയ്യുന്ന വിഷയങ്ങൾക്കും സാഹിത്യം ആവിഷ്ക്കരിക്കുന്ന മാധ്യമങ്ങൾക്കും വലിയ മാറ്റം വന്നിരിക്കുന്നു. അത്തരമൊരു സാഹചര്യത്തിലാണ് സൈബർ സാഹിത്യം എന്ന വിഷയം പ്രസക്തമാകുന്നത്. സാഹിത്യാവിഷ്കാരത്തിനുള്ള പ്രാഥമിക ഇടമായി ഇന്നു സൈബർ സ്പെയ്സ് മാറിയിരിക്കുന്നു. ജനങ്ങളുടെ സർഗ്ഗവാസനയെ പോഷിപ്പിക്കുന്നതിലും, ആശയാവിഷ്കാരം നടത്തുന്നതിലും വലിയ സാധ്യതയാണ് ലഭ്യമായ പ്രദാനം ചെയ്യുന്നത്. സൈബർ സ്പെയ്സിൽ ഇന്റർനെറ്റിലെ വെബ് ജേണലുകളിലും സൈറ്റുകളിലും പ്രത്യക്ഷപ്പെടുന്ന സാഹിത്യത്തെയും, സൈബർ സാഹിത്യം പശ്ചാത്തലമായി വരുന്ന സാഹിത്യത്തെയുമാണ് സൈബർ സാഹിത്യം എന്നതുകൊണ്ട് ഉദ്ദേശിക്കുന്നത്. ഈ വാക്കു പുനർനിർണ്ണയിക്കേണ്ടിയിരിക്കുന്നു. ലിങ്കുകൾ (Links), വിഷയങ്ങൾ, അനിമേഷൻ തുടങ്ങിയ മൾട്ടിമീഡിയ സാധ്യതകൾ മുഴുവൻ ഉപയോഗിക്കുന്ന വിധത്തിൽ സൈബർ സാഹിത്യം മാറേണ്ടിയിരിക്കുന്നു. അത്തരമൊരു സാധ്യതയാണ് സൈബർ സാഹിത്യം മലയാളത്തിൽ എന്ന ഈ പ്രബന്ധം മുന്നോട്ടുവയ്ക്കുന്നത്.

STRUCTURAL AND ELECTRICAL CHARACTERIZATION OF RARE EARTH DOPED COBALT FERRITE NANOPARTICLES

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Spinel ferrites have attracted the attention of researchers recently because of their potential applications in scientific, technological and biomedical fields. Rare earth doped cobalt ferrites can find applications in magnetic data storage, sensors, microwave devices, magnetic refrigeration, magnetically guided drug delivery, antimicrobial agents etc. The partial substitution of Fe^{3+} by rare earth element can also lead to structural distortions and modify its magnetic and electrical properties.

In the present study, nanocrystalline spinel ferrites with composition $\text{CoFe}_{2-x}\text{R}_x\text{O}_4$ ($\text{R}=\text{Sm}, \text{Nd}, \text{Dy}$) were synthesized by sol-gel technique. The structural characterizations of the samples were done using X-ray diffraction (XRD) and Transmission electron microscope (TEM). XRD analysis reveals the spinel structure formation in the prepared samples. Electrical characterization has been carried out using Keithley source meter. The variation of DC resistivity with temperature shows the semiconducting behaviour of the ferrites. Dielectric properties were studied using impedance analyzer. These results show that the rare earth doping has large influence on the structural and electrical properties of cobalt ferrite nanoparticles.

SYNTHESIS AND MAGNETIC CHARACTERIZATION OF RARE EARTH DOPED COBALT FERRITE NANOPARTICLES

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Nanotechnology the potential to create many new materials and devices with wide range of applications, such as in medicine, electronics, energy production and agriculture. Nanoferrites are at present very promising materials in technological applications and magnetically guided drug delivery. The properties of ferrites are highly influenced by the substitution of various cations of different valence states. Rare earth doped cobalt ferrites can find applications in magnetic data storage, sensors, microwave devices, magnetic refrigeration, magnetically guided drug delivery, antimicrobial agents etc. The partial substitution of Fe^{3+} by rare earth element can also lead to structural distortions and modify its magnetic and electrical properties.

In the present study, nanocrystalline spinel ferrites with composition $\text{CoFe}_{2-x}\text{R}_x\text{O}_4$ ($\text{R}=\text{Sm}, \text{Nd}, \text{Dy}$) were synthesized by sol-gel technique. The structural characterizations of the samples were done using X-ray diffraction (XRD) and Transmission electron microscope (TEM). The crystallite size of the nanoparticles were found to be in the range 11-20 nm. The magnetic properties of the materials were analysed using Vibrating Sample Magnetometer (VSM). The saturation magnetization obtained for $\text{CoFe}_{2-x}\text{R}_x\text{O}_4$

(R=0)ferrite is 52.6 emu/g and it decreases with the doping of different rare earth elements. The rare earth doping has decreased the hysteresis loss tremendously. The results suggest that the magnetic properties of Cobalt ferrite nanoparticles can be modulated by the addition of very small amount of rare earth ions and different rare earth elements.

DEMYSTIFYING ACADEMIC PLAGIARISM

Jasumudheen

Librarian,

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Definition of Plagiarism, different forms of plagiarism, E-resources, publication and note taking were discussed in the session. The speaker stressed the fact that the academic community need to behave with academic honesty. He explored higher education plagiarism policy and discussed actions the students could take to avoid falling into the plagiarism trap. Students should develop the habit of effective notetaking, and they should ensure that they synthesise the information from internet and write in their own words. The importance of proper attribution of resources they have used in a bibliography was also explored. He gave an overview of free and paid plagiarism softwares like Plagiarism checker, Turnitin etc.

INTRODUCTION TO NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY

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The nuclear magnetic resonance spectroscopy (NMR) is one of the most important spectroscopic techniques available at present. It is a branch of spectroscopy in which radiowaves induce transition between the energy levels of nuclei of molecules. The energy levels are created by keeping the nuclei in a strong magnetic field. NMR is probably the most powerful tool for determining the structure of both organic and inorganic molecules. The most sophisticated diagnostic tool, MRI, is based on NMR spectroscopy.

NMR spectroscopy is based on the magnetic properties of nuclei. The nucleus of an atom consists of protons and neutrons. Like electrons, these particles also are spinning on their own axis. That is, they possess the property of spin. The spin is an intrinsic (inbuilt) property. The simplest nucleus is a proton, the hydrogen atom nucleus. A spinning proton generates local magnetic fields and as a result possesses magnetic moment. The NMR spectrometer consists of (a) powerful electromagnet (b) a radiofrequency transmitter, and (c) a suitable detector. The sample under examination is placed in the magnetic field and subjected to the radio frequency field of the transmitter. In most spectrometers the radio frequency is kept constant and the magnetic field is varied till

resonance condition is produced. Some of the nuclei absorb energy from the radio frequency and the detector finds out the field strength at which sample molecules absorb. The detector records the absorption in the form of a signal in the spectrum. When placed in an external magnetic field all the protons of the sample molecule may not possess with the same frequency. The reason for this can be explained in the following way: In a molecule the protons are surrounded by electrons. Electrons are charged particles placed in a magnetic field they are forced to move in such a way that secondary magnetic fields are created. This induced magnetic field always opposes the applied field near the nucleus. As a result the strength of the applied field decreases about the nucleus and the nucleus experiences a field lower than that we have actually applied.

INDIAN MATHEMATICS – THE STORY OF MATHEMATICS

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This paper explores history of Mathematics in Indian subcontinent. Indian Mathematics emerged in the Indian subcontinent from 1200 BCE until the end of 18th century. The decimal number system in use today was first recorded in Indian Mathematics. Indian Mathematicians made early contributions to the study of the concept of zero as a number, negative numbers, arithmetic and algebra. Trigonometry was further advanced in India. These Mathematical concepts were transmitted to the Middle East, China and Europe and led to further developments that now form the foundations of many areas of Mathematics. This paper concludes with notion of remembering our remarkable contributions in the development of Mathematics.

स्त्री की स्याही से कई स्त्रियाँ

के.लेखा

हिन्दी विभाग, सेंट जेवियर्स कॉलेज फॉर विमेन, आलुवा

कल्पना, चारों ओर की बातों को परखने और अभिव्यक्ति की शक्ति से साहित्य का निर्माण होता है। प्रस्तुत करने के ढंग से एक रचना दूसरी रचना से भिन्न हो जाती है। कथ्य को संवादात्मक शैली में लिखा जाए तो वह नाट्य कृति बन जाती है। यही नाट्य कृति जब प्रस्तुत की जाए, तो लगभग सभी बातों को अभिनय, वेश-भूषा, वातावरण, ध्वनि, प्रकाश, मंचोपकरण आदि से ही व्यक्त किया जा सकता है। अतः नाटक लिखना और उसे मंच में प्रस्तुत करना आसान कार्य नहीं है।

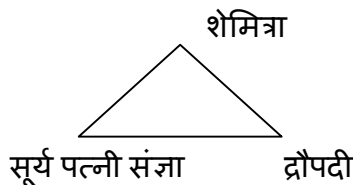
नाट्य लेखन में 'स्त्री का स्थान' के बारे में सोचे तो सभी सोचते ही रह जाएँगे। सच्चाई तो यह है कि कई महिलाओं ने साहित्य की इस विधा को विकसित करने में अपना योगदान दिया है। इन्हीं में से एक है- शारदा मिश्र। इनका तीन नाटकों का एक संग्रह है- त्रिकोण। इसमें निहित तीन नाटक हैं- सूर्य पत्नी संज्ञा, शेमित्रा और द्रौपदी। ये तीनों नाटक स्त्री केंद्रित हैं। दो नाटकों में मिथकीय पात्र हैं तो एक नाटक में ऐतिहासिक।

'सूर्य पत्नी संज्ञा' में सूर्य की पत्नी संज्ञा मुख्य पात्र है। वह अपने पति को तपस्या करके पाई थी। पर वह जिस प्यार की आशा रखती थी वह उसे कभी न मिला। पत्नी के प्यार की उपेक्षा करने वाले पति के प्रति संज्ञा के मन में क्रोध उमड़ आता है और अनजाने ही वह एक दूसरा रूप ले लेती है। इससे होनेवाला संघर्ष पराष्ठा तक पहुँचता है और पार्वती के द्वारा सूर्य को समझाने से संज्ञा और सूर्य का पुनः 'मिलन' होता है और नाटक का सुखांत हो जाता है।

‘शेमित्रा’ नाटक में आर्य साम्राज्ञी देवयानी, असुर राजकुमारी को दासी बना लेती है। आर्य सम्राट ययाति, शेमित्रा से नज़दीकियाँ बढ़ाता है जिससे उनके बीच नाजायज़ संबंध जुड़ जाता है। एक शादीशुदा मर्द से शेमित्रा ने कुछ ज़्यादा ही आशा रखी। ययाति अपनी पत्नी से छिपकर शेमित्रा के पास जाता था। तब शेमित्रा को लगा कि वह उसे आर्य साम्राज्ञी से भी ज़्यादा मान दे रहा है। देवयानी को जब यह सब पता चलता है तो संबंधों के बीच टकराहट आ जाती है। पुरुष अपने वर्चस्व से सब कुछ अपने काबू में कर लेता है। न चाहते हुए भी देवयानी को शेमित्रा और ययाति के बीच के संबंध को स्वीकार करना पड़ता है।

‘द्रौपदी’ नाटक, पौराणिक पात्र द्रौपदी का पुनर्मूल्यांकन है। महाभारत में द्रौपदी को पाँच पुरुषों को मजबूर होकर स्वीकारना पड़ता है। पर इस नाटक में द्रौपदी अपने जीवन का फैसला खुद करना चाहती है। वह इस तरह सब के सामने प्रकट होती है कि सब लोगों को उसकी बात माननी पड़ती है। वह खुद सब पुरुषों को अपना पति बना लेती है। इस नाटक में यथार्थ के पुरुष वर्चस्व को द्रौपदी के वर्चस्व में बदल दिया गया है।

इन तीनों नाटकों को विश्लेषित किया जाए तो इनसे वाकई त्रिकोण बन जाता है।



इतिहास हो या पुराण, सब में स्त्री पर पुरुष वर्चस्व का प्रभाव होता है । स्त्री चाहे किसी भी रूप में हो आखिर में उसका मिलन एक बिंदू पर ज़रूर होता है । स्त्री चाहे पत्नी हो, प्रेमिका हो या विवाह के लिए तैयार युवती हो, उसका अंतर्मन संघर्ष से जूझता रहता है । ये नाटक नारीत्व के तीन कोणों को दर्शाते हैं । तीनों स्त्री पात्र की अपनी एक पहचान है पर तीनों को अंतर्द्वंद्व का सामना करना पड़ता है । शारदा मिश्र ने स्त्री मन के अतल को पढ़ने की कोशिश की है जिसमें उन्हें पूर्ण सफलता भी मिली है ।

AN EVALUATIVE STUDY ON THE FINANCIAL LITERACY PROGRAMS OF UNION BANK OF INDIA, ERNAKULAM

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Financial literacy is central in the coming years as it enables consumers to understand the benefits of formal products and providers and to make choices that fit their needs and represent good value for money. The guidelines for the conduct of camps by FLCs and rural branches of banks have been issued by RBI. The directives for financial literacy programs to other banks in the district have been given by the Lead banks in the same district. The functions of UBI, Lead bank of Ernakulam District has to be evaluated to find out what measures are taken by them to improve financial literacy among people in Ernakulam District through UBI's Financial Literacy Programs and how it has improved their performance through years.

AN ANALYTICAL STUDY ON THE EXISTENCE OF GENDER DIFFERENCES IN PERSONAL INVESTMENT PATTERN OF INFORMED INVESTORS IN ALUVA CITY

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Finance has the ability to make or break an individual's life, but its influence depends on how possessors use and manage it. This blatant truth signifies the importance of personal finance. But women do not have the same relationship to finance as men because there are many striking differences between them. Both men and women should be financially efficient to take appropriate financial decisions for themselves and their families. The study aims to get a clear understanding of the existence of a gap in the investment pattern and distribution of women as compared to men with the objective of providing a basis for assessment as to what should be done in order to make sure that women are not financially disadvantaged

**A COMPARATIVE STUDY ON CUSTOMER
PREFERENCE TOWARDS THE PUBLIC SECTOR
AND PRIVATE SECTOR BANKS WITH SPECIAL
REFERENCE TO SBI AND HDFC BANK IN
ERNAKULAM CITY**

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The banking industry in India has undergone sea change since post independence. More recently, liberalization, the opening up of the economy in the 90s and the Government's decision to privatize banks by reducing in state ownership culminated in the banking reform based on the recommendation of Narasimha Committee. The prime mover for banks today is profit, with clear indication from the Government to 'Perform or Perish'. Banks have also started realizing that business depends on client services and build relationship with customers. The main driver of this change is changing customer needs and expectations. This study tries to identify the customer preference towards public sector and private sector banks with special reference to SBI and HDFC Bank.

PERFORMANCE ANALYSIS OF KERALA BASED PRIVATE SECTOR BANKS: A STUDY RELATED TO CUSTOMER DIMENSION

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Banking sector is the backbone of any economy. Customer satisfaction has played an important role in the success or failure of a business in the present world. Customer satisfaction is considered the essence of success in banking. Satisfaction of customers is the most important forecaster of service quality of banking sector. The present study is conducted to analyze the customer satisfaction of Kerala based private sector banks. Kerala based private sector banks means those bank, which head office is situated in Kerala. Catholic Syrian Bank, South Indian Bank, Federal Bank, Dhanalaxmi Bank are four major private sector banks in Kerala.
