CRITERION III - RESEARCH, INNOVATION AND EXTENSION

3.4.3 Number of research papers in the Journals notified on UGC website during the last five years

LIST OF RESEARCH PUBLICATION – 2019-2020					
S.No	**Title of the Paper**	**Name of the author/s**	**Department**	**Name of the Journal**	**Link**
1	Kannakiyin kanal urai	Dr.S.Lakshmi	Tamil	Aaytha ezhuthu	VIEW
2	Kadal kadantha penn	Dr.K.Padmavilasini	Tamil	Aaytha ezhuthu	VIEW
3	Sangakala Penn Pulavar	Dr. P. Radha	Tamil	Aaytha ezhuthu	VIEW
4	Nattuppura siruvar padalkal	Dr.A.Suganthi Annathai	Tamil	Aaytha ezhuthu	VIEW
5	Making Techno-tasks accessible: A step to increase English Learning Skills in SLLs	Dr. Beena Anil	B.A English	The English Classroom, Regional Institute of English, South India	VIEW
6	Fun with Grammar	Beena Anil	B.A English	Teacher	VIEW
7	The War within: Situating Anita Desai's Cry, the Peacock through Leon Festinger's Theory of Cognitive Dissonance	K. Sivashankari	B.A English	Bodhi International Journal of Research in Humanities, Arts and Science	VIEW
8	Victimization of the Subaltern Injustice done by the Parents: A Realistic Portrayal from Girish Karnad's Hayavadana	D.L. Giftlin Paul	B.A English	BODHI International Journal of Research in Humanities, Arts and Social Sciences.	VIEW
9	Native Sensitivity in the Poetry of Meena Alexander	M. Sujatha	B.A English	BODHI International Journal of Research in Humanities, Arts and Social Sciences.	VIEW
10	Let us Stop Playing Peek-a-boo with Idiomatic Expressions	B. Nagalakshmi	B.A English	BODHI International Journal of Research in Humanities, Arts and Social Sciences.	VIEW
11	A Comparative Study of Two Dimensional	S.Hemalatha	B.Sc Mathematics	Journal of Physics: Conference Series	VIEW

	Legendre & Chebyshev Wavelet with an Extended case				
12	Domatic Independent Transversal Domination in Graphs	K Priya Bhanthavi	B.Sc Mathematics	International Journal of Research and Analytic Reviews	VIEW
13	Encoding the Graph Using Instant Instanity Puzzle and Decoding with Hamiltonian Cycle	D.A.Angel Sherin	B.Sc Mathematics	The International Journal of Analytical And Experimental Modal Analysis	VIEW
14	Encryption and Decryption Process using Edge Magic Labelling	D.A.Angel Sherin	B.Sc Mathematics	JOURNAL OF PHYSICS: CONFERENCE SERIES	VIEW
15	A New Coding Technique and Analysis of Trees	D.A.Angel Sherin	B.Sc Mathematics	International Journal of Recent Technology and Engineering (IJRTE)	VIEW
16	Spectrophotometric Determination of Atorvastatin Calcium and Pitavastatin Calcium through Ion-Pair Complex Formation using Acid Dyes in Pharmaceutical Formulations and Human Urine Samples	S. Niranjani	B.Sc Chemistry	International Journal of Applied Pharmaceutics	VIEW
17	Green Route Synthesis and Characterization of Cuprous Oxide (Cu2O): Visible light Irradiation photocatalytic activity of MB Dye	S. Niranjani	B.Sc Chemistry	Materials Today: Proceedings	VIEW
18	Method Development and Validation of Pitavastatin Calcium and its Degradation Behavior under varied Stress Conditions by UV Spectrophotometric methods	S. Niranjani	B.Sc Chemistry	Dhaka University Journal of Pharmaceutical Sciences	VIEW
19	Simple Titrimetric, Spectrophotometric and Gravimetric Methods for the Assay of Pitavastatin Calcium in a Green Manner	S. Niranjani	B.Sc Chemistry	Journal of Pharmaceutical Science and Research	VIEW
20	New records of Chara zeylanica var. diaphana f. sundaralingii (Meyen)	G. Rani	B. Sc Plant Biology and Plant	Indian Hydrobiology	VIEW

	R.D.W. forma nova from South India with SEM studies on oospore and molecular studies (rbcL)		Biotechnology		
21	Production, Puriication and Characterization of chitosan from Trichoderma viride	R. Siva	B. Sc Plant Biology and Plant Biotechnology	International Journal of Research and Analytical Review	VIEW
22	Biodiversity of the Microalgal Population in Chettikulam Pond of Tenkasi District, Tamil Nadu, India	C.B.Nirmala	B. Sc Plant Biology and Plant Biotechnology	International Journal of Psychosocial Rehabilitation	VIEW
23	Biodiversity of the Microalgal Population in Chettikulam Pond of Tenkasi District, Tamil Nadu, India	K.Arulmeha Ponradha	B. Sc Plant Biology and Plant Biotechnology	International Journal of Psychosocial Rehabilitation	VIEW
24	A Novel Approach Using Support Vector Machine for Outlier Removal and Multilayer Perceptron in Classifying Medical Datasets	C.P.Sumathi	B.Sc Computer Science	Soft Computing and Signal Processing: Proceedings of 2nd ICSCSP 2019 2	VIEW
25	A Sentiment Classification on Indian Government Schemes Using PySpark	R. Radha	B.Sc Computer Science	International Journal on Emerging Technologies	VIEW
26	Effective Implementation of Pre-Processing Techniques in machine Learning for Autism Spectrum Disorder	C.Radhika	B.Sc Computer Science	International Journal of Innovative Technology and Exploring Engineering	VIEW
27	A New Method of Data Preparation for Classifying Diabetes Dataset	C.P.Sumathi	B.Sc Computer Science	Indian Journal Of Science and Technology	VIEW
28	A Hybrid Classification Model using Genetic Algorithm and Support Vector Machine combined with Consistency based subset evaluation for Feature Selection	C.P.Sumathi	B.Sc Computer Science	International Journal for Research in Engineering Application & Management (IJREAM)	VIEW
29	An Optimal Energy Consumption Based Resource Management in Mobile Cloud Computing	C.P.Sumathi	B.Sc Computer Science	International Journal of Recent Technology and Engineering	VIEW
30	A novel approach to segment leaf region from	R.Radha	B.Sc Computer Science	An International Journal of Advanced	VIEW

	plant leaf image using automatic enhanced grabcut algorithm"			Computer Technology	
31	A Systematic analysis of Data-intensive MOOCs and their key Challenges	R.Radha	B.Sc Computer Science	IEEE Xplore	VIEW
32	A Survey on Predicting Autism Spectrum Disorder using Machine Learning Techniques	C. Radhika	B.Sc Computer Science	International Journal on Emerging Techno-logies	VIEW
33	Soil Nutrients Monitoring For Greenhouse Yield Enhancement Using Ph Value with Iot and Wireless Sensor Network	M.Lavanya	B.Sc Computer Science	IEEE	VIEW
34	Reducing End To End Delay Through Adaptive Greedy Search Algorithm For Wireless Body Area Sensor Network	E. Ramya	B.Sc Computer Science	International Journal of Recent Technology and Engi-neering	VIEW
35	Effect of UV-B light and sunlight exposure on the vitamin D2 content of Button (Agaricus Bisporous) and Oyster (Pleurotus Ostreatus) mushrooms	T.S.Lakshmi	Nutrition,FSM & Dietetics	International Journal of Food and Nutritional Sciences	VIEW
36	Effect of a combined nutraceutical supplement on the lipid profile of hypercholesterolemic men.	S.Geetha	Nutrition,FSM & Dietetics	International journal of health sciences and research	VIEW
37	Stress Faced by Undergraduate Students: Reference with to Chennai City	G. Sakunthla Devi	BBA	The International journal of analytical and experimental modal analysis	VIEW
38	Impact of social media on emotional health among young people's life	P. Brindha	BBA	Think India (Quarterly Journal)	VIEW
39	Awareness and Usage of Online Research Facilities by Faculty Members	K. Meenakshi	BBA	The International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
40	Awareness and Usage of Online Research Facilities by Faculty Members	H. S. Rupa	BBA	The International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW

41	Impact and uses of whatsapp among college students	K. Meenakshi	BBA	The International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
42	Impact and uses of whatsapp among college students	K. Lakshmi	BBA	The International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
43	India two wheelers Go electric-setting stage for the E-Revolution	S. Seethalakshmi	Commerce	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
44	Digital transformation of Indian Buisness - An analysis	S. Seethalakshmi	Commerce	GIS BUSINESS	VIEW
45	Digital transformation of Indian Buisness - An analysis	K. Shyamala	B.Com (CS)	GIS BUSINESS	VIEW
46	India two wheelers Go electric-setting stage for the E-Revolution	K. Shyamala	B.Com (CS)	International journal for innovative technology & exploring engineering	VIEW
47	Benefits and challenges of Online Food ordering and delivery service - with special reference to working women in Chennai	K. Shyamala	B.Com (CS)	International Journal of Recent Technology and Engineering,	VIEW
48	Impact of Emotional Marketing on Consumer Buying Behaviour	Y. Kalaivani	B.Com A & F	Alochana Chakra	VIEW
49	7 students' awareness and perception about genetically modified food	J. Priya	B.Com A & F	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
50	A Study on the Challenges Faced by the Irula Tribal Women to Become Entrepreneur - With Special Reference to Thandarai Village	R.Harini	B.Com ISM	Studies in Indian Place Names - UGC Care Journal	VIEW
51	The Impact of Social media on Emotional health amoung young peoples' lives	V. Sangeetha	B.Com ISM	THINK INDIA - QUATERLY JOURNAL ISSN:0971-1260	VIEW

52	Benefits and challenges of Online Food ordering and delivery service - with special reference to working women in Chennai	R. Subhasri	B.Com PA	International Journal of Recent Technology and Engineering,	VIEW
53	A study on role of social media in E-learning	M.Nagamalar	MHRM	E-learning in Think India (quarterly journal)	VIEW
54	Impact of social media sites(SMS) on post purchase behavior of tourism customers	M.Nagamalar	MHRM	International journal of recent technology and engineering	VIEW
55	Complementary tree domination number of Semi total point graph	S. Jayalakshmi	M.Sc.Applicable Mathematics	The international journal of analytical and experimental modal analysis	VIEW
56	Fuzzy Servqual Model for Health Care Service Quality In Hospitals	V.Suriya	M.Sc Biostatistics	A JOURNAL OF COMPOSITION THEORY(JCT)	VIEW
57	Fuzzy Servqual Model for Health Care Service Quality In Hospitals	B. Janani	M.Sc Biostatistics	A JOURNAL OF COMPOSITION THEORY(JCT)	VIEW
58	Density functional studies and spectroscopic analysis (FT-IR, FT-Raman, UV–visible, and NMR)with molecular docking approach on an antifibrotic drug Pirfenidone	P.Manjusha	M.Sc Physics	Journal of Molecular Structure	VIEW
59	Preliminary Phytochemical Screening of ThespesiaPopulnea Leaf Extracts and Evaluation of Its Antibacterial Activity	P. Gowthami	M.Sc Chemistry	Journal of Information and Computational Science	VIEW
60	Single pot solid-state synthesis of ZnO/chitosan composite for photo catalytic and antitumor applications	T.Preethi	M.Sc Chemistry	Journal of material science : Materials in electronics	VIEW
61	Investigation on antibacterial and photocatalytic degradation of Rhodamine-B dye under visible light irradiation by titanium molybdate nanoparticles prepared via microwave	D. Lakshmi	M.Sc PBPBT	Surfaces and Interfaces	VIEW

	method				
62	Characterization of struvite produced by an algal associated agarolytic bacterium Exiguobacterium aestuarii St. SR- 101.	L. Sheeja	M.Sc PBPBT	J.Pure Appl Microbiol,	VIEW
63	A Comparative Study on Caching Strategies in Content Centric Networking for Mobile Networks	C. Victoria Priscilla	M.Sc Computer Science	IEEEXplore	VIEW
64	Multivariate Classification of Drugs using Parametric and Non parametric Machine Learning Models	N.Priya	M.Sc Computer Science	IEEE	VIEW
65	Effective Implementation of Pre-Processing Techniques in machine Learning for Autism Spectrum Disorder	N.Priya	M.Sc Computer Science	International Journal of Innovative Technology and Exploring Engineering	VIEW
66	Leukemia Drug Prediction using Machine Learning Techniques with Feature Engineering	N.Priya	M.Sc Computer Science	Journal of Advanced Research in Dynamical and Control Systems	VIEW
67	A Hybrid Approach on Mammograms High Density Ratio Using Data Mining Techniques for Breast Abnormalities	C.Victoria Priscilla	M.Sc Computer Science	Journal of Advanced Research in Dynamical and Control Systems	VIEW
68	Application of Machine Learning Models in Drug Discovery: A Review	N.Priya	M.Sc Computer Science	International Journal on Emerging Technologies	VIEW
69	A Survey on Predicting Autism Spectrum Disorder using Machine LearningTechniques	N.Priya	M.Sc Computer Science	International Journal on Emerging Technologies	VIEW
70	Consumer Perception towards Online Grocery Shoppping in Chennai	S.Subbulakshmi	M.Com	Test Engineering and Management	VIEW
71	Employees' Perception on E-Banking Services in Banks in Chennai	S.Subbulakshmi	M.Com	International Journal of Recent Technologyand Engineering (IJRTE)	VIEW
72	Perception about Cyber Crimes among Students in Arts and Science Colleges in Chennai	S.Subbulakshmi	M.Com	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW

73	Inter Personal Skills of Working Women in Chennai City - An Emprical Study	S.Subbulakshmi	M.Com	Adalya Journal	VIEW
74	Impact and uses of whatsapp among college students	T. Anitha	M.Com	The International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
75	7 students' awareness and perception about genetically modified food	D. Lalitha	M.Com	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
76	The Customer Expectation and Satisfaction on online Food order from Restaurant in Chennai	P.Maheswari	M.Com	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	VIEW
77	A Study on Employee engagement in IT sector	M.Rekha	M.Com A & F	International Journal of Human Resource Management and Research ISSN: 2249-6874	VIEW
78	A Study on the Factors influencing stock selection process of individual investors with special reference to Chennai City	S.Kamakshi	M.Com A & F	Shanlax International Journal of Arts,Science and Humanities	VIEW
79	Study on Perception of Students on Employability Skills with special reference to management Students	S.Kamakshi	M.Com A & F	PARISHODH JOURNAL	VIEW
80	A study on impact of social media among school and college students "	S.Kamakshi	M.Com A & F	Alochana Chakra (UGC Care Listed Jounral _ Group I)	VIEW
81	The Impact of Social media on Emotional health amoung young peoples' lives	P. Amirtha	M.Com A & F	THINK INDIA - QUATERLY JOURNAL	VIEW
82	Enriching Higher Education in Social Media	S.Bindhu	M.Com A & F	THINK INDIA - QUATERLY JOURNAL	VIEW
83	A Study in E-Loyalty on Online Consumers	M.Rekha	M.Com A & F	THINK INDIA - QUATERLY JOURNAL	VIEW

84	Women Investors' perception towards Investment in mutual fund	M.Rekha	M.Com A & F	Shanlax International Journal of Arts,Science and Humanities ISSN: 2320-4168	VIEW
85	A Descriptive Study On Role Of Social Networking In Present Scenario	G. Aruna Abirami	MSW	THINK INDIA - QUATERLY JOURNAL	VIEW
86	A Descriptive Study On Role Of Social Networking In Present Scenario	K. Priyadharshini	MSW	THINK INDIA - QUATERLY JOURNAL	VIEW

கண்ணகியின் கனல் உரை

*முனைவர் சு.லட்சுமி, உதவிப்பேராசிரியர், தமிழ்த்துறை, எஸ்.டி.என்.பி மகளிர் வைணவக் கல்லூரி, குரோம்பேட்டை, சென்னை - 44.

முன்னுரை

தமிழகத்தின் பெருமையையும் வரலாற்றையும் தன்னகத்தே கொண்டதும் வாழ்வியல் உண்மைகளை மக்களுக்குணர்த்த எழுந்ததுமான பெருங்காப்பியமே சிலப்பதிகாரம். இதில்,

"அரசியல் பிழைத்தோர்க்கு அறங் கூற்றாவதூஉம்
உரைசால் பத்தினியை உயர்ந்தோர் ஏத்தலும்
ஊழ்வினை உருத்து வந்தூட்டும் என்பதூஉம்"

என்ற சமுதாய அறத்தினை உலகோருக்கு உணர்த்தியுள்ளார் இளங்கோவடிகள். கோவலன் கதைத் தலைவனாக இருப்பினும், கண்ணகியைக் கொண்டே கதைப்பின்னல் அமைக்கப்பட்டுள்ளது. சிலப்பதிகாரம் என்ற தலைப்பின் வழியே நாம் இதை உணர இயலும். மெல்லியல் மங்கையான கண்ணகி மெத்தனம் கொண்டவளாய்த் திகழ்ந்தமையைப் போற்றும் விதமாக முதல் எட்டுக் காதைகள் வரை பேசாதிருந்தவள் தனக்கு இழைக்கப்பட்ட கொடுமைகளுக்குப் பொங்கி எழுந்து கனல் உரை ஆற்றியதையும் இங்குக் காணலாம்.

கண்ணகியும் கோவலனின் காதல் மொழிகளும்

மாநாய்க்கன் என்ற மாபெரும் வணிகனின் மகள் பன்னிரண்டு வயது அகவையாள் பொன்னை உருக்கிய மேனி அழகு கொண்டு மின்னல் போல் பொலிகின்றாள்.

"போதிலார் திருவினாள் புகழுடை வடிவென்னும்
தீதிலா வடமீனின் திறமிவள் திறமென்றும்
மாதரார் தொழுதேத்த வயங்கிய பெருங்குணத்துக்
காதலாள் பெயர் மன்னுங் கண்ணகியென் பாள்மன்னோ"

(சிலம்பு - மங்கலவாழ்த்து : 26 - 29)

என்று கண்ணகி பெண்களே புகழ்ந்து ஏத்தும் தன்மை கொண்டவள் என்கிறார் இளங்கோவடிகள். கயமலர்க் கண்ணியும் காதற் கொழுநனும் அமளிமிசை நெடுநிலை மாடத்தில்,

"மாயிரும் பீலி மணிநிற மஞ்ஞைநின்
சாயற் கிடைத்தது தண்கான் அடையவும்"

(சிலம்பு : மனையறம் படுத்த காதை 53-54)

என்று கூறியும்,

கடல் கடந்த பெண்

*முனைவர் கோ.பத்மவிலாசினி, உதவிப் பேராசிரியர், தமிழ்த்துறை, எஸ்.டி.என்.பி. மகளிர் வைணவக் கல்லூரி, சென்னை, குரோம்பேட்டை – 44.

முன்னுரை

மணிமேகலை தமிழிலுள்ள ஐம்பெருங் காப்பியங்களுள் ஒன்று. தமிழ்நாட்டின் வளம், தமிழர் நாகரிகம், வரலாற்று உண்மை, அறநெறி, தமிழ்நாட்டின் இயற்கை காட்சி போன்றவற்றைப் படித்து இன்புறத்தக்க காப்பியம். ஆசிரியப்பாவால் அமைந்த பௌத்த காப்பியமான மணிமேகலையை மதுரைக்கூலவணிகன்சீத்தலைசாத்தனார் பௌத்த சமயக்கொள்கையைய் பரப்பவே எழுதினார் எனலாம். உலக இன்பத்தைப் பழித்துரைக்கும் இந்நூல் சமய நோக்கில் சிறந்த முழுமையான ஒரு சமயக்காப்பியமாகத் திகழ்கின்றது. மணிமேகலை என்னும் இளம்பெண் கடல் கடந்து சென்றதையும் பற்றற்ற துறவு நிலையிலும்கூட சமூகச் சிந்தனையோடு சமுதாயத்திற்குத் தொண்டாற்றியதையும் இக்கட்டுரை ஆய்கின்றது.

புரட்சிக்காப்பியம் மேகலை

சிலப்பதிகாரம் அரசியல் புரட்சியை மக்களுக்கு அறிவுத்தியது போல, மணிமேகலை சமுதாயப் புரட்சியை அறிவுறுத்துகிறது. பரத்தையின் மகளான ஒரு சாதாரணப் பெண்ணைக் காவியக்தின் கதாநாயகியாக வைத்து எழுதியது ஒரு புரட்சி எனலாம். அரசானது அறநெறியில் நிற்காவிடில் நாடு நலிவுற்று, மக்களின் ஒழுக்கப்பண்பு மறைந்து, நாட்டில் வறுமை புகுந்து எல்லா நன்மைகளும் சிதறிவிடும் என்பதை உணர்த்துகிறது. வறுமையற்ற சமுதாயத்தில் தான் மனிதத்தன்மை நிலைத்து நிற்கும். பசிப்பிணி என்னும் பாவி ஆட்சி புரியும் சமுதாயத்தில் ஒழுக்கம் நிலைத்திருக்காது என்ற உண்மையைக் கூறுவது மணிமேகலை. பசி, மது, சாதி, சிறை, பரத்தமை, களவு ஒழிய வேண்டும் என்று புரட்சியின் தோற்றுவாயாக மணிமேகலை திகழ்கின்றது. அத்தோடு உலக இன்பத்தைப் பழித்துரைத்து 'மக்கள் பணிதான் உயர்ந்த தர்மம்' என்பதை வலியுறுத்துகிறது. இதனால் மணிமேகலை மக்களை நல்வழிப்படுத்த வந்த ஒரு சீர்திருத்தக் காப்பியம் என்றும் கூறலாம்.

மணிமேகலை

காப்பியத்தின் நாயகியான மணிமேகலை,

"காவலன் பேரூர் கனையெரி யூட்டிய
மாபெரும் பத்தினி மகள் மணிமேகலை" ஊரலர் உரைத்த காதை – 2: 54-55

என்று அறிமுகப்படுத்தப்படுகிறாள். அத்தோடு,

"அருந்தவப் படுத்தல் அல்தியாவதும்
திருந்தாச் செய்கைத் தீந்தொழிற் பாடாஅள்" ஊரலர் உரைத்த காதை - 2: 56-57

சங்ககாலப் பெண் புலவர்: மாறோக்கத்து நப்பசலையார்

*முனைவர் ப.இராதா, உதவிப் பேராசிரியர், தமிழ்த்துறை, எஸ்.டி.என்.பி.மகளிர் வைணவக் கல்லூரி, குரோம்பேட்டை, சென்னை – 600 044.

முன்னுரை

சங்ககாலப் பெண் புலவர்களில் ஒருவர் நப்பசலையார். இவர் கவிதையாற்றல் மிக்குடையவர். புலவர்களை மதிக்கும் பாங்கும், அவர்களின் ஆற்றலைக் குறித்துப்பாடுவதும் இவரது கவிதைகளில் இழையோடியிருப்பதைக் காணமுடிகிறது. சம காலப் புலவர்களைப் பாடியது போல் மன்னர்களைக் குறித்தும் பாடியுள்ளார். இவர் சோழன் குளமுற்றத்துத்துஞ்சிய கிள்ளிவளவன், மலையமான் திருமுடிக்காரி, திருமுடிக்காரியின் மகன் ஏனாதி திருக்கண்ணன் ஆகியோரின் கொடைச் சிறப்பினையும், வீரத்தினையும் புகழ்ந்து பாடியுள்ளார். இவரது பாடல்களில் நிமித்தம் பற்றிய செய்திகளும், கையறுநிலை பற்றிய குறிப்புகளும், தொன்மம் பற்றிய செய்திகளும் காணப்படுகின்றன. இவரது பாடல்களில் அமைந்திருக்கும் புலமைத்திறனை வெளிப்படுத்துவதே இக்கட்டுரையின் நோக்கமாகும்.

மாறோக்கத்து நப்பசலையார்

மாறோக்கத்து நப்பசலையார் எனும் பெயர் 'மணிமிடை பெண்ணின் மாமை சாயலென் அணிநலஞ் சிதைக்குமார் பசலை'(304) என்று நற்றிணையில் பெண்களின் மாமை நிறமாகிய அழகை சிதைக்கும் பசலையைப் பற்றி பாடியமையால் நப்பசலையார் எனும் பெயர்ப்பெற்றார். மேலும் மாறோக்கம் எனும் ஊர் பாண்டியநாட்டில் உள்ள ஓர் ஊர்ப்பெயராகும். "கொற்கையைச் சூழ்ந்த மாறோக்கம், குட நாட்டையும் முள்ளி நாட்டையும் தன் எல்லையாகக் கொண்டது. இப்பகுதியில் மாறமங்கலம் எனும் ஊர் உள்ளது. இவ்வூரை நற்கடி வேளாளர் வரலாறு எனும் நூல் 'ஓக மாநகர்' எனக் குறிக்கும். முள்ளிநாட்டில் கல்லிடைக் குறிச்சியும், சேரன் மாதேவியும் இருந்தன என்பது கைந்நிலை எனும் நூல் குறிப்பால் தெரிய வருகிறது. இப்பகுதியில் இன்றுள்ள மாறமங்கலம் என்னும் ஊரை மாறோக்கம் என்பர் சிலர். மாறோக்கம் என்ற இவ்வூரைச் சேர்ந்த, மாறோக்கத்து முள்ளிநாட்டு நல்லூர் காவிதியார் மகனார் புல்லங்காடனார் கைநிலை எனும் கி.பி.5-ஆம் நூற்றாண்டைச் சேர்ந்த அகநூலை எழுதியுள்ளார். தொல்காப்பியம் சொல்லதிகாரத்திற்கு மிகச் சிறந்த உரை எழுதிய சேனாவரையர் இவ்வூரைச் சேர்ந்தவரே. (கி.பி.13,14-ஆம் நூற்றாண்டு) இவ்வூருக்குப் பக்கத்திலுள்ள ஆற்றூரைச் சேர்ந்தவர். தி.வை.ச. பண்டாரத்தார், தமிழ் இலக்கிய வரலாறு, பகுதி - 2 (ப.38)." என்று மாறோக்கம் எனும் ஊர்ப்பெயர் குறிப்பிடப்படுவதால் நப்பசலையார் எனும் பெயருடன் ஊர்ப்பெயரும் சேர்த்து மாறோக்கத்து நப்பசலையார் என்று இவர் சுட்டப்படுகிறார். இவரது இயற்பெயர் அறியமுடிவில்லை. இவர் எட்டுத்தொகையில் அகநூலாகிய நற்றிணையில் ஒரு பாடலும், புறநூலாகிய புறநானூற்றில் ஏழு பாடல்களும் பாடியுள்ளார். புறநானூற்றில் சோழனைப் பற்றி மூன்று பாடல்களும், சேரனைப் பற்றி இரண்டு பாடல்களும், அவியன் எனும் குறுநில மன்னனைப்பற்றி ஒரு பாடலும், கையறுநிலையில் அமைந்த பொதுவியல் திணையில் ஒரு பாடலும் பாடியுள்ளதை அறியமுடிகின்றது.

நாட்டுப்புறச் சிறுவர் பாடல்கள்

*முனைவர் அ.சுகந்தி அன்னத்தாய், உதவிப்பேராசிரியர், தமிழ்த்துறை, எஸ்.டி.என்.பி மகளிர் வைணவக் கல்லூரி, குரோம்பேட்டை, சென்னை.44.

குழந்தைகள் வழக்காறுகளில் குழந்தைகள் பாடல்கள் அல்லது சிறுவர் பாடல்கள் என்பதும் ஒன்று. எல்வோரும் விரும்பும் பருவமும், அனைவருக்கும் மகிழ்ச்சி அளிக்கும் பருவமும் குழந்தைப் பருவம் ஆகும். அக்குழந்தைப் பருவத்தில் குழந்தைகளாலும், மற்றவர்களாலும் பல பாடல்கள் பாடப்படுகின்றன. அப்பாடல்கள் சிறுவர் பாடல்கள் என வழங்கப்படுகின்றன. இங்கு சிறுவர் என்னும் சொல் 'அர்' என்னும் பலர்பால் விகுதியைப் பெற்று இருப்பதால் ஆண், பெண் என ' இருபாலரையும் குறிக்கும் சொல்லாகக் கருதப்படுகிறது. இவ்வாய்வு திருநெல்வேலி மாவட்டம் 'தேவர்குளம்' பகுதியில் பாடப்பெற்ற 'சிறுவர் பாடல்கள்' தரவுகளாக சேகரிக்கப்பட்டு மேற்கொள்ளப்பட்டுள்ளது.

பாடற்பொருள்

"குழந்தைப் பாடல்களில் வாழ்க்கைத் தொடர்பான பொருள் இருக்கும் என்று எதிர்பார்த்தால் அது கிடைக்காத ஒன்றாகும்"[1] என்பார் ஆறு. அமுகப்பன்.

"குழந்தைகளுக்கு வார்த்தைகளைக் கற்றுக் கொடுக்கும் தாய்மார்கள் அதற்கென்று சில பாடல்களைச் சொல்லித் தருவார்கள். அந்தப் பாட்டிலே பொருள் தொடர்போ அபூர்வமான கருத்தோ இருக்க வேண்டும் என்பது அவசியம் இல்லை?"[2] என்று நாடோடி இலக்கியம் குறிப்பிடுகிறது. இத்தகைய கருத்துகள் நிலவினாலும், குழந்தைகளின் உடல் மற்றும் உள்ள வளர்ச்சிகளின் நோக்கோடு பாடப்படும் இப்பாடல்களின் பின்னால் மெய்யான பொருள் பொதிந்துள்ளது என்பதும் மறுக்கமுடியாத உண்மையாகும்.

நோக்கம்

சிறுவயதிலேயே குழந்தைகள் உள்ள நிலை, அறிவுநிலை, ஆற்றல் நிலை, நோக்கு நிலை போன்ற பல நிலைகளில் வளர்ச்சி பெற வேண்டும் என்ற நோக்குடன் இப்பாடல்கள் பாடப்பெறுகின்றன. இனிய ஓசை, விளையாட்டு, கல்வி, தெய்வ நம்பிக்கை, வினா விடைகள், அ.·.றிணை உயிர்களிடத்தில் அன்பு ஆகியன இப்பாடல்கள் மூலம் கற்றுக் கொடுக்கப்படுகின்றன. சிறுவயதிலேயே இவற்றைத் தெரிந்து கொள்ளும் சிறுவர்கள் தங்கள் வளர்ச்சி நிலையில் அவற்றைப் பின்பற்றுவர் என்ற நம்பிக்கையோடு இவைகள் சொல்லித் தரப்படுகின்றன.

சிறுவர் பாடல்கள் வகைகள்

1 குழந்தைகள் பாடுவன

2. குழந்தைகளுக்காக மற்றவர்கள் பாடுவன

என்ற இரு பிரிவின்கீழ் சிறுவர் பாடல்களை வகைப்படுத்தலாம்.

சிறுவர்களுக்காக மற்றவர்கள் பாடுவன

குழந்தைகளின் பெற்றோர்களும், உறவினர்களும் உடன்பிறந்தவர்களும் இவ்வகைப் பாடல்களைச் சிறுவர்களுக்காகப் பாடுகின்றனர். குழந்தைகளுக்காக மற்றவர்கள் பாடும்போது, அவர்களும் குழந்தையோடு குழந்தையாக மாறி பாடுவர். குழந்தைகளின் மனம், அறிவு, விருப்பம் இவற்றிற்கேற்பவே இப்பாடல்கள் அமைந்து இருக்கும். வளரும் குழந்தைகளுக்கு தேகப்பயிற்சியோடு உள்ளப் பயிற்சியும், இயற்கை பற்றிய அறிவும், பிற வகையில் நீதி, பக்தி, வாழ்க்கை பற்றிய அறிவும் இப்பாடல்கள் வழி கற்றுக் கொடுக்கப்படுகின்றன. இதற்கு சான்றுகளாகச் 'சாய்ந்தாடம்மா சாய்ந்தாடு', 'கைவீசம்மா கைவீசு' போன்ற பாடல்களைக் கூறலாம்.

பாடற் வகைகள்

சிறுவர் பாடல்களைப் பாடப்படும் சூழலுக்கு ஏற்பவும், சிறுவர் - சிறுமியர்களுக்கிடையே அப்பாடல்களினால் ஏற்படும் ஊடாட்டத்திற்கு ஏற்பவும் பல வகைப்படுத்தலாம்.

1. குழந்தை வளர்ச்சி நிலைப் பாடல்கள்
2. அறிவுத் திறன் பயிற்சிப் பாடல்கள்

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The third paper **'Designing an ESP Course for Students of Business Administration'** by Dr Lourdes Joavani J is a report on a study of designing a course in Business English guided by the underlying principles of ESP considering the expectations all stakeholders thereby shaping the structure and features of this course design. The author claims that the course focuses on the LSRW skills combining a language-centered, skill-centered and learner-centered course design on Business English.

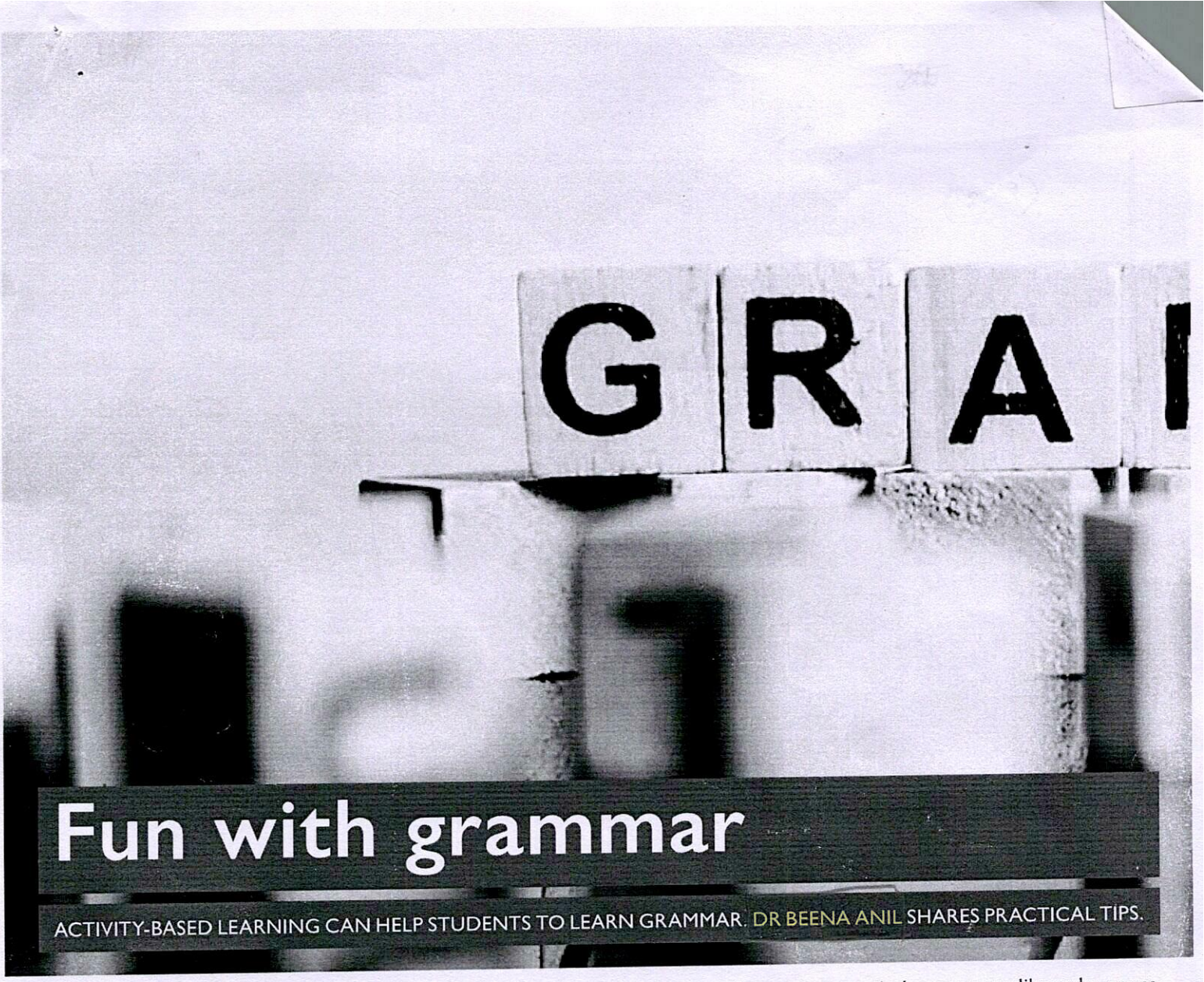
Next paper titled **'Self-access, Learner Autonomy and Self-directed Learning: The Relationship and the Differences,'** by Dr R Kalpana and Dr S Sankarakumar explores the possibility of the self-access method of instruction; familiarizes some key concepts like learner autonomy, self-direction and self-instruction highlighting the semantic distinction between these closely related concepts and the underlying relationship between these terms.

The following paper **'E-Learning in English Classroom: An Analysis of Factors Leading to Its Acceptance,'** by Dr K Rathiga and Mrs M Sarpparaje explores the possibility of the web-based education in learning of languages in engineering colleges in India and assesses the attitude of the students towards online learning of English and the factors leading to acceptance of online learning among the engineering students.

The sixth paper **'Facing the Digital Storm,'** by Dr N Pratheeba attempts to bring to record five teacher friendly websites that can be used by language teachers who are very hesitant to explore the web for pedagogical activities and the paper also encourages the teachers to face the digital storm effortlessly to confront the students of the twenty first century.

In the next paper 'Making Techno-tasks Accessible: A Step to Increase English Learning Skills in SLLs,' Dr.Beena Anil discusses various e-task applications to be used in the classroom to improve the listening, speaking, reading and writing skills of second language learners.

The last paper titled **'Listening Comprehension on TOEIC with Engineering Students: A Case Study** by Dr J Anbazhagan Vijay, is a report of a study intended to



Fun with grammar

ACTIVITY-BASED LEARNING CAN HELP STUDENTS TO LEARN GRAMMAR. DR BEENA ANIL SHARES PRACTICAL TIPS.

Teaching grammatical aspects of English language to young learners can be a daunting task. Young students may think of grammar as 'uncool' or 'boring', a common view among the peer group. Therefore, teachers have to move away from prescriptive teaching, and design activities to teach grammar in a non-intimidating manner.

The *Guardian* newspaper has described this as, 'the third hindrance to grammar is its reputation. When we think of grammar we picture dusty textbooks, evil teachers holding canes and dry lesson plans. But grammar is colourful, and its ability to completely change the meaning of a sentence is fascinating'.

How do we make grammar interesting for students? And what do you do when children acquire English as their second language? Clearly, activity-based learning and improved teaching can make grammar more enjoyable for students. So, let me elaborate a task where learners learn quantifiers with help of a simple game.

You must be wondering why I have chosen to discuss quantifiers. Studies have pointed out that most second language learners find it difficult to use quantifiers correctly. As Parrot found in his 2010 work, 'choosing the correct quantifier is complicated and learners often leave them out altogether'.

To those who are not grammarians, quantifiers can be used before and after nouns to answer questions like 'how much?' or 'how many?' Quantifiers are used with both countable and uncountable nouns. 'Many' learners have 'more' difficulties in understanding the usage of quantifiers, thus, the task Wonder With Words (WWW) helps them to learn simply.

Teachers can redesign or restructure the game according to the level of understanding and background of the learner. This task can be further modified to teach other grammatical components like verbs, nouns, adverbs, etc. The following section outlines the procedure and functionality of WWW to teachers.

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THE WAR WITHIN: SITUATING ANITA DESAI'S *CRY, THE PEACOCK* THROUGH LEON FESTINGER'S THEORY OF COGNITIVE DISSONANCE

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Abstract

The human mind is like a balloon. It is filled with the air of hopes and expectations that lift a human being,howeververy many times the balloon bursts or the human mind is demotivated due to contradictory hopelessness and disappointments. Hence the conflict between belief and behaviour,expectation and realityisnatural and unavoidable. This creates a certainmentalvoid which stimulatestension in the mind which can be termed as discordance. The famous American social psychologistLeon Festingerpropounded the Theory of Cognitive Dissonance to prove this occurrence. In simple terms, cognitive dissonance signifies aconflict betweenbinary opposites like belief and behaviour, tradition and modernity, reality and illusion, rational and emotional constraint and so on.Cognitive means the mental processes of perception,memory, judgement and reasoning. Dissonance means incongruity or disagreement. This dissonance makes human relationship a complicated affair. The renownedIndian woman writer Anita Desai, has contributed immensely to the world of literature. Maya, Cry the Peacock is her debut novel. This novel delineates the psychological tumult, in the mind of the protagonist Maya due to many conflicts on the psychological terrain in her marital life. Her expectations of her husband, to be another version of her fatherresults in total disappointment. She is very sensitive and her husband is too insensitive. Maya has a modern outlook towards life but her husband is conservative. Her feminine sensibility clashes with his masculine callousness. So there arises a conflict in all her interactions with him. This leads to intellectual and emotional alienation between the couple. She is in constant struggle within herself. This paper attempts to analyse the various situations which causes cognitive dissonance in the mind of Maya, the protagonist. She is transformed into a hysterical character,with an affected psychological consciousness, as she is unable to cope with the dissonance. She feels estranged in her marital life and ends up murdering her husband asanescapeor elimination of the dissonance in her mind. She resembles a fragrant rose which bleeds while falling on its own thorns. Her problems are merely caused by her own vulnerable mind.Tarme .N.Kulshreshta and his co writers assert that the novel is a"faithful description of Maya's inner world of conflicts arising out of her failed marriage, and her loneliness".(318)

Keywords: *Cognitive Dissonance, Inner conflicts, Induced Compliance,Belief Disconfirmation, Effort Justification.*

Anita Desai is a dexterous explorer of the dark corners of the human psyche. She reveals may unsaid stories of the mind. Her novels have a touch of emotional strain and psychological dilemmascaused due to inner subtle complexities of the human mind. She unveils the inherent turbulent nature of the human mind and captures the different hues of the mind which keeps changing in accordance to the situations of life. She is very proficient in her style and descriptive method of writing. Her stories are woven with a rich domestic thread that showcases the artistic network of the life of a common man! Her stories resonate the lives of people in any domestic neighbourhood! In Maya, Cry the Peacock she pens the story of a woman who faces utter cognitive dissonance due to emotional conflicts in her marital life. The inner psychic tension caused due to cognitive dissonance is vividly portrayed by the writer, with a high lyrical quality. This novel is celebrated as the best piece of literature! Anita Desai is totally disinterested in political or social issues! Her stories touch the rock bottom of the human mind and brings to surface the inner conflicts! She dedicates her suggestive writing in Maya Cry the Peacock to investigate the latent suppressed emotions of a woman with unrealistic expectations.

Leon FestingeradvocatedThe Theory of Cognitive Dissonance in 1957. According to Festinger It is a subject of a new theory based on experiments showing that the grass is greener on the other side of the fence and that grapes are sourest when they are in easy reach(2).

The theory provesthat humans endeavour to achieve oneness or consistency in their thoughts andactions. When a discrepancy arises in this, it leads to a mental tension or

VICTIMIZATION OF THE SUBALTERN-INJUSTICE DONE BY THE PARENTS: A REALISTIC PORTRAIT FROM GIRISH KARNAD'S HAYAVADANA

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The children community is the most inferior category in the society as they depend on their parents for their basic needs such as food, clothes and shelter. They are very tender that they deserve the love, care and affection from their parents.Being the weakest of physical,mental and emotional strength, their survival become difficult if there is no one to support them. Moreover children are tormented and exploited even by their own parents, step parents, relatives and neighbours. They are not courage enough to raise their voice against this tormentation because they have limited liberty to talk in front of parents and elders. They are suppressed by such patriarchal norms of India and remains as silent victims. According to the subaltern theory, children of India are also considered as subaltern in many perspectives. The word subaltern refers to the people of inferior rank or status in the society. Gayatri Chakravorthy Spivak an Indian literary theorist confers that subalterns are the people who don't raise their voice. Taking this aspect into consideration, the children are focused in subaltern perspective.

Children getting abandoned by their own parents are the worst form of victimization. Most of the orphans are produced by parents' own selfish thoughts and lechery. These child victims are helpless and undergo pain and agony throughout their life. Girish Karnad, an Indian Playwright, visualized a mythical and realistic portrait of child victimization in his play Hayavadana. It is constructed by a central plot and a sub plot, both depicts child victimization.The central plot is the story of three characters Devadatta, Kapila and padmini, who acts as the offenders for destructing the life of a little child. The sub plot tells the mythical story of a horse headed man Hayavadana who is abandoned by his parents undergo pain and tormentation throughout his life. It ironically portrays a clearcut picture of pain which Hayavadana undergoes for his identity and completeness.

The story of Devadatta, Padmini and Kapila is a fine example of how an illicit relationship exploits the desires of a child who deserves everything.Devadatta falls in love with Padmini a beautiful woman, and promised to sacrifice his arms to goddess Kali and head to Lord Rudra , if he gets Padmini as his wife. Devadatta and Padmini have united their hands in wedding and Padmini become pregnant. As Devadatta does not have a perfect physique like Kapilahis friend, Padmini develops a secret affair with Kapila in her mind. In this scenario, Devadatta, Padmini and Kapila have planned for an Ujjain trip together. By confirming his wife's interest on Kapila, Devadatta remembers his oath and decided to do the sacrifice. By mistake he sacrifices his head in Kali temple instead of his arms.Being tormented by guilt, Kapila too cuts his head and dies. Both the men have not returned for a long time. Padmini goes in search of them and she too tries to cut her head.The goddess Kali appears and told Padmini to join the heads of the men to give them life. Being interested in Devadatta's head and Kapila's body, Padmini swap the heads. Goddess gives life to two men and vanished. Both the men claim Padmini, as their wife but Padmini chooses the one who has the head of Devadatta as her husband.Kapila with Devadatta's body got disappointed and departed to the forest. On the next ujjain fair Devadatta plans to replace the dolls he got from the

NATIVE SENSITIVIY IN THE POETRY OF MEENA ALEXANDER

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Abstract

As the Statesman,an Indian English-language broadsheet daily newspaper,quoted "Undoubtedly one of the finestpoets in contemporary times", Meena Alexander, carved a niche in the books of diaspora literature.Born in Allahabad, the Indian poet and the renowned scholar had her schoolingin Sudan and spent quarter century of life in New York. Having earned her doctorate at the age of twenty and two, her brainstorming poems reflect on her eagerness to have oneness with her native country. Her poetry collectionsalso dwell predominantly on the theme of migration, alienation, homesicknessand explore human conditions on the chaotic world. Her poems are exceedingly introspective and psychoanalytical.Since Alexander has faced identity crisis throughout her life, her exotic poetic works kindle her dark pastmemories that trace her life from childhood in India through youth and education in Africa and marriage in England and motherhood in New York. As a multicultural feminist, she had carefully constructed her literary works and earned her literary fame. True to AmitavGhosh's view that "the modern Indian diaspora has now become an important force in world culture and literature" (Ghosh 1989:73) the immigrant writers have excelled in writing in all the genres of literature. This article chooses few of her poems from her various poetry collectionsfor analysis and discovers her sense of belongingness through the fragmented experience of the poet, for whom the 'home is both nowhere and everywhere'.

"When the time came for her to learn all the knowledge from her past lives returned to her, as wild geese in autumn to the Ganga River". —Kalidasa, Kumarsambhava(1:30)

Internationally acclaimed poet Meena Alexander was born in 1951 to a Syrian Christian Family of Kerala. As a result of her family's relocations, she struggles to find her own identity. The multicultural feminist Meena, during her five years stay at her early ages in India, has published her first three books of poetry: *The Bird's Bright Ring* (1976), *I Root My Name* (1977), and *Without Place* (1978). LaterMeena Alexander has written many volumes of poetry of which *Illiterate Heart* (2002) has won a 2002 PEN Open Book Award. Her other major poetry volumes include*Raw Silk* (2004), *The Shock of Arrival: Reflections on Postcolonial Experience* (2006), *Birthplace with Buried Stones* (2013), and *Atmospheric Embroidery* (2015)

RajiniSrikanth, the author of the award-winning book '*The World Next Door*', in her article entitled, *'Entangled Alphabets'*, says that she was fated to feel deeply the anguish and suffering of those about whom she wrote, drawing the words from within her, digging through the rich soil of her consciousness. Meena's heart reverberated with the grief of others. There is a profound earnestness to her writing."

In the poem, *'Birthplace with Buried Stones'*, the poet expressively pens down yet in mournful numbers that she was born in place prone to war zone, and that happensto be her 'first home'.

"I came into this world in an Allahabad hospital,
Close to a smelly cow pasture.
I was brought to a barracks, with white walls
And corrugated tin roof,
Beside a civil aviation training center.
In World War II officers were docketed there.
I heard the twang of propellers,
Jets pumping hot whorls of air,
Heaven bent,
Blessing my first home."

In her groundbreaking book, '*The Shock of Arrival: Reflections on Postcolonial Experience*'Alexander embraces the exhilaration and disruption of dislocation.This book entirely revels on her diaspora experience. In all her poems, her use of poetic images and metaphorsstrikingly draws the rough-edged beauty of displacement.In*'Alphabets of Flesh'*, Alexander elegantly chiseled her words to describe her agony to see her native place.

LET US STOP PLAYING PEEK-A-BOO WITH IDIOMATIC EXPRESSIONS

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Abstract

Idiomatic expressions in the English language always leave the non-native speakers of English to play peek-a-boo with meaning and usage. The given dialogue between a native and non-native speaker posits the difficulty of using idiomatic expressions in real-life conversation.

Native speaker: "I feel a bit under the weather today."
Non-native speaker: Yes, the weather is very bad today.
Native speaker:(Looks perplexed).

The idiom 'under the weather' means unwell/sick / ill. The non-native speaker-related it to the bad weather of the day. This paper highlights such problems related to the misunderstanding that arises out of the use of idioms by non-native speakers. This is due to the inference of the meaning of words and phrases very often by decontextualizing them. This paper explores the strategies for teaching idioms to L2 learners. As idioms are surrounded by some etymological tales and interesting associations of their development, the teaching can explore upon narrating such tales, using flash cards and designing games and designing worksheets by grouping idioms to a theme.This process of teaching enables the L2 learners to relate them to the context. This approach makes the meanings of the idioms to stay rooted in one's memory.

keywords: *Idioms, Phrases, Context, Meaning, Etymology, Origin, Learners, Game, worksheet, Flash-cards)*

Introduction

You may ***go banana*** *(going crazy)*, if you attempt to decode the following idioms readily:***"I heard it through the grapevine; He is a smart cookie; I got myself into the pickle this time; Don't beef about something; That car is a real lemon."***Barzegar (2015) stated "a person whose native language is not English, or a native English speaker who has not thoroughly mastered English idioms, is prone to commit errors while using idioms in their language" (p. 110). Should these idioms to be taught or not to the L2 learners? If yes, how idioms can be taught in the L2 context.The present article discusses the issues related to the usage of idioms and gives hints to handle them. The author attempted share some strategies with teachers for approaching idioms and to use an idiomatic language in the L2 context.

A formal and relatively early definition of idioms was advanced by Makkai (1972, p. 23), defined idioms "as a form of expression, grammatical construction, phrase, etc., peculiar to a language; a peculiarity of phraseology approved by the usage of language, often having a significance other than its grammatical or logical one" (as cited in Hinkel, p.46). This was later adopted in several editions of the Oxford English Dictionary in the 1970s and 1980s. In general, teaching idiomatic language components can lead to improvements in learners' receptive and productive skills in various contexts.

Problems Stated

Idiomatic expressions expose some inherent characteristics difficult for EFL students to learn. Hung (2019) has highlighted that some schools of linguistics had accepted idioms as figurative fixed expressions. For example,the idiomatic expression *get the wrong end of the stick* does not convey any meaning of the content words *end* and *stick* used in this idiom, but refers to a situation when the reader or listener misunderstands the meaning produced by the writer or speaker. Another aspect is idioms used to be considered arbitrary. The meanings of idioms could not be explained. Due to these characteristics of idioms, EFL students are asked to learn them by heart.However, Cho (2010) believes, "rote-learning or learning by heart cannot help learners form long-term memory, which contemporary literature believes is crucial in second language acquisition (SLA) and learning" (Ellis

A Comparative Study of Two Dimensional Legendre & Chebyshev Wavelet with an Extended case

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Abstract.

In this paper, we present an extended case of Two Dimensional Legendre & Chebyshev wavelet to solve a system of PDE's and a Comparative Study of these two wavelets. In this article, we construct an operational matrix from two Dimensional Chebyshev and Legendre wavelets which is then used to convert PDE into some algebraic equations and hence we solve by the method of collocation. A new operational matrix was derived and it is utilized to convert PDE with BVP to a set of algebraic equations. Some examples are given to evaluate the effectiveness of the newly found approximation technique and compared with the existing result

Keywords. TDLW, TDCW, Error in TDLW & TDCW.

1. Introduction

Wavelet analysis plays a vital role in decomposing images and sounds into waves of different periods called wavelets. Wavelets are used in localizing vibrations of both sound and image signal in detail. Multiresolution analysis is the heart of wavelet analysis, which is the decomposition of a function of different levels of resolutions . In the field of mathematics, the development of wavelets are relatively very recent compared the other domains wavelets is a simple tool in mathematics with a huge variety of utmost applications. On the other hand, wavelets appeal to engineers and scientists of several backgrounds. We take the wave equation in our example. The wavelets equations is an important second order linear PDE for the observation of waves such as water , Seismic waves, sound or light waves are the examples of mechanical waves[12]. It arises in the field of acoustics, fluid dynamics and electromagnetics. In the literature, the problems based on Vibrating string of musical instruments are studied by d 'Alembert, Bernoulli, L. Euler & J.L Lagrange[1] [2]. We take Klein –Gordan equation in our example which is a relativistic energy- momentum wave equations, its solutions are of quantum scalar or pseudo scalar field. This equation explains all the spinless particles with zero, negative and positive charges .Klein-Gordan equation plays a key role in the quantum field theory. [3] [4] "Wavelets"- Very famous topic of discussions among many scientists of science, Engineering [9] [11]. Wavelets are the new basis for the representations of functions and a few considered it as a new technique to define the analysis of time frequency and the other hand a few thought wavelets was a new mathematical subject. Wavelets acts as a versatile tool with very rich content in the mathematics and high potential for applications.[6]Wavelets are really a special type of oscillatory which has compact support that plays the platform for most of the domains. The Klien-Gordan equation is a relativistic version of the schrodinger equation which describes the behaviour of spinless particles[3] [4] [5]. For full reconciliation of quantum mechanics with relativity quantum field theory is required, in which the K.G. Equations remerges as the equations obeyed by the component of all free quantum

Domatic Independent Transversal Domination in Graphs

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Abstract

A set $S \subseteq V$ of vertices in a graph $G = (V,E)$ is called a *dominating* set if every vertex in $V - S$ is adjacent to a vertex in S. I.Sahul Hamid defined a dominating set which intersects every maximum independent set in G to be an *independent transversal dominating* set. The minimum cardinality of an independent transversal dominating set is called the *independent transversal domination number* of G and is denoted by $\gamma_{it}(G)$. A partition of $V(G)$ into dominating sets is called a *domatic partition* of G. The maximal number of classes of a domatic partition of G is called *the domatic number* of G and is denoted by $d(G)$. I.Sahul Hamid also defined an *independent transversal domatic partition* of a graph G to be a domatic partition in which every member is an independent transversal dominating set. The maximal number of classes of an independent transversal domatic partition of G is called the *independent transversal domatic partition number* of G and is denoted by $d_{it}(G)$. In this paper, we begin the investigation of this parameter.

Keywords: dominating set, domatic partition set, independent transversal dominating set, independent transversal domatic partition set

2010 Mathematics subject classification: 05C69.

1 Introduction

By a graph $G = (V, E)$, we mean a finite undirected and connected graph with neither self-loops nor multiple edges. For graph theoretic terminology we refer to the book by Chatrand and Lesniak [1]. All graphs in this paper are assumed to be connected. A set $S \subseteq V$ is a *dominating* set if every vertex in $V-S$ is adjacent to a vertex of S and the minimum cardinality of a dominating set is called the *domination number* of G and it is denoted by $\gamma(G)$. A minimum dominating set of a graph G is called a *γ-set* of G. For a comprehensive introduction to domination in graphs, the reader is directed to the book [3]. A subset S of V is called an *independent set* of G if no two vertices of S are adjacent in G. The maximum cardinality of an independent set is called the *independence number* and is denoted by $\beta(G)$. A maximum independent set is called a *β-set* of G.

I.Sahul Hamid [8] defined a dominating set $S \subseteq V$ of a graph G to be an *independent transversal dominating set* if S intersects every maximum independent set of G. The minimum cardinality of an independent transversal dominating set of G is called the *independent transversal domination number* of G and is denoted by $\gamma_{it}(G)$. An independent transversal dominating set S of G with $|S| = \gamma_{it}(G)$ is called a *γ_{it}-set* of G. A partition of $V(G)$ into dominating sets is called a *domatic partition* of G. The maximal number of classes of a domatic partition of a graph G is called *the domatic number* of G and is denoted by $d(G)$. I.Sahul Hamid also defined an *independent transversal domatic partition* of G to be a domatic partition in which every member is an independent transversal dominating set. The maximal number of classes of an independent transversal domatic partition of G is called the *independent transversal domatic partition number* (*ITDP*) of G and is denoted by $d_{it}(G)$. Much work in independent transversal domination number of graphs has been done in [2,4,5,6]. In this paper, we begin the investigation of this parameter.

Encoding the Graph Using Instant Instanity Puzzle and Decoding with Hamiltonian Cycle

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Abstract **- Instant Insanity puzzle is a game with four cubes of faces colored with four colors. We stack the cubes in a column. Here we consider six cubes of faces denoted with six faces. Six cubes are placed one above the other to form stack like structure. A multi-graph is implemented using an Instant Insanity puzzle with faces named of even numbers. These faces of even numbers will give a plaintext. We use asymmetric key to determine whether the graph contains a Hamiltonian path leading to Hamiltonian cycle. The receiver computes edge labeling technique to determine the decoded message. Atlast the receiver will get six words and jumble the words to reveal the message. In this paper, we create a puzzle with six cubes and discuss the properties of Hamiltonian graph using the multi-graph.**

Keywords **- Instant Insanity puzzle, Labeling, Encoding, Decoding, Hamiltonian path, Hamiltonian cycle.**
2010 Mathematical subject classification Number: 05C78.

I. INTRODUCTION

Instant Insanity is a puzzle originates in the year 1900. This puzzle is also called "the Great Tantalizer". Later its version is revised by Parker brothers in the year 1960. Parker Brother is an American toy and game manufacturer company. Instant Insanity is puzzle of four cubes. Cube consists of six faces. Each cube is coloured with combination of four colours. The aim is to order the cube in such a way that the top of the cube must contain a unique colour. If a first face is selected, then the four adjacent faces are selected as the left face. Therefore, there are 6 x 4= 24 possibilities for each cube. Now for four cubes, we have 24 x 24 x 24 x 24 possibilities. The entire combination can be rotated in four ways without changing the form. The number possible form is 82,944 ways.

Graph theory yields a tool to solve this puzzle. We will lay a background work for this solution. Let us consider a cube with six vertices in pairs as front-back, top-bottom and left-right. A predefined six cubes pattern is taken for the investigation. Let the faces be 2, 4, ... , 12 and edges are labeled with a function. Each cube is implemented using a graph. All the simple graphs are combined to form a multiple graph. The receiver gets a multi-graph with encoded plaintext in the faces.

ENCRYPTION AND DECRYPTION PROCESS USING EDGE MAGIC LABELING

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ABSTRACT--In this paper we are using edge magic labeling graph to encrypt a message. Then using Longest cycle path technique we decrypt the message by inverse matrix multiplication.
Keywords: Labeling, Encryption, Decryption, Cycle Graph.
2010 Mathematical subject classification Number: 05C78.

1. INTRODUCTION

Wael Mahmoud Al Etaiwi [2] conferred an encryption algorithm using minimum spanning tree, they encrypt the data from spanning tree and decrypt the data using minimum spanning tree. Abdulaziz B.M.Hame and Ibrahim O.A. Albudaw [5] presented an encryption and decryption process using modulo 27. Intended from the above references, we used plain and cycle graph to encrypt and decrypt the message.

Let us take an undirected plain graph G(A)=(V,E) associated with vertices V and edges E. An unique way of moving from one vertex to another vertex without repetition of vertex is called path. An undirected movement starts from one vertex and return back to the same vertex, is called closed path. Closed path otherwise called cycle graph. Let us consider a plain graph with five vertices and seven edges graph.

Graph can be represented using adjacency list and adjacency matrix. The adjacency list is a group of hierarchical list of confined graphs. The adjacency matrix is a symmetric matrix of elements representing the combination of edges to a vertex $|v| \otimes |v|$. A graph with a particular marking is called graph labeling. A graph labeling is of two kinds, vertex labeling and edge labeling. The edge magic total is the sum of distance between the edges. This type of labeled graph is also called a weighted graph. In this work we define a problem of longest closed path which forms a cycle graph.

Cryptography is a hidden way of communicating a message from a sender to the receiver. A message is given using secret key called cipher text. We can use various steps to encrypt the message.

Encryption algorithm can be classified into two classes

(1) Symmetric key
(2) Asymmetric key

Encryption and decryption of a message using the same key is called symmetric key. Encryption and decryption of a message using the distinct key is called asymmetric key. In asymmetric key one key is

A New Coding Technique and Analysis of Trees

D. A. Angel Sherin, V. Maheswari

Abstract: *A message is encoded using one-time pad Cipher and Huffman coding with certain algorithm. Encoding process is done using a symmetric key known to sender and receiver. Then we get the encoded message as Ciphertext with a binary tree. Using the binary tree we form a prefix code of Huffman coding and we define a new labeling function of edge and vertex labeling. In this paper, we discuss the two methods of encoding algorithm and investigate Tree, Rooted trees, properties, theorem and Median of Huffman binary tree.*

Keywords: *One-time pad Cipher, Huffman coding, Trees, Rooted trees, Huffman Vertex, Edge Labeling and Median. 2010 Mathematical subject classification Number: 05C78.*

I. INTRODUCTION

One-time pad is first explained by Frank Miller in 1882, and it is again was re-invented in 1917. Frank Miller used this system for securing telegraphy. In the year 1917, Gilbert Vernam used the XOR method to message of an one-time pad. He got one-time pad method from his Vernam cipher. Vernam's system consists of operative key tape, which was again used when the loop form a full cycle. Joseph Mauborgne introduces one-time pad Cipher to the world with random key tapes to crypt the message.

To increase security, the cryptographers print the one-time pads message onto sheets of highly flammable nitrocellulose, so that they could easily be burned after use. The one-time pad Cipher is an encryption technique which cannot be cracked, without knowing key of same size as the message. In this technique we pair the plaintext with a secret key. Then, we get

a pad of character using modular addition. One-time pad cipher belongs to a type of Vignere cipher.

A. Huffman Coding

David A. Huffman tries to solve an assignment using binary code in 1957. But he could not find the accuracy of any codes. One day he got the idea of using a frequency-unorder binary tree and quickly proved the efficient of this method. To continue his project Huffman joined with Information theory analyst Fano and Claude Shannon to develop more code with binary trees. They confirmed the optimality of structured tree which is drawn from the bottom. Huffman coding is a famous Greedy Algorithm and used for the lossless compression of data. It applies to find variable length encoding, frequency of smallest and largest code.

II. LITERATURE REVIEW

M.Senthil Kumar, V.Mathivanan [11] introduces a new concept of analyzing data using Huffman coding and Arthimetic coding. Alyssa Gottshall, Justin Kahn [9], gave detailed project report regarding the Radio number of Biregular paths. K.Sunitha, Dr.C.David Raj and Dr.A.Subramanian [8] talked about the Radio labeling of Hurdle graph and Biregular rooted trees. Inspired by these work on trees we found a new methods of coding by Huffman algorithm.

III. ILLUSTRATION (ONE-TIME PAD CIPHER)

A. Key features of One-time pad Cipher

1. The key is an unbreakable Cipher
2. The key is exactly same as the length of message which is encrypted
3. The key is made up of random symbols
4. The key used once will not be used again

Due to this, encrypted message will not be accessible to attack for a cryptanalyst.

B. Algorithm for One-time pad

1. The message will be given
2. Key with a same string size will be given
3. Addition of each message word with key words
4. Sum of Key and plain text will be further calculated with modulo 10/26/2
5. A new set of Ciphertext will be developed

C. Encryption

Message: We are Happy

Key: MNKLDGHFJR

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Original Article

SPECTROPHOTOMETRIC DETERMINATION OF ATORVASTATIN CALCIUM AND PITAVASTATIN CALCIUM THROUGH ION-PAIR COMPLEX FORMATION USING ACID DYES IN PHARMACEUTICAL FORMULATIONS AND HUMAN URINE SAMPLES

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ABSTRACT

Objective: The main objective was to develop simple, cost-effective, rapid and selective spectrophotometric methods for the determination of atorvastatin calcium and pitavastatin calcium in pure and pharmaceutical formulations using acid dyes like bromothymol blue, bromocresol purple and bromocresol green and also in human urine samples.

Methods: The developed methods were based on the formation of ion-pair complexes between statin drugs and acid dyes after studying the optimization conditions. The association constants of the developed ion-pair complexes were evaluated using Benesi–Hildebrand equation. The methods were validated according to ICH guidelines.

Results: The formed ion-pair complexes showed maximum absorbance which was measured at 637 nm for both methods A and D, 601 nm, 606 nm for methods B and E and 631 nm for both methods C and F respectively with correlation coefficients 0.999. The analytical parameters and their effects in the developed methods were investigated. The ion-pair complexes were stable up to 24 h and showed good linearity. The molar absorptivity, Sandell sensitivity, detection, and quantification limits were also calculated. The stoichiometry ratio in all the cases was 1:2 by using Job's method of continuous variation. The recovery studies again showed good results because co-formulated substances did not interfere for the determination of ATC and PTC in the developed methods.

Conclusion: The developed methods were applicable for routine quality control analysis of ATC and PTC in pure and pharmaceutical dosage forms. Good results were obtained when the developed methods were applied in healthy human urine samples.

Keywords: Pitavastatin calcium, Atorvastatin calcium, Acid dyes, Spectrophotometry, Ion-pair complex, Validation

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INTRODUCTION

Atorvastatin calcium (ATC) is chemically [R-(R,R)]-2 (4-fluorophenyl)-β,δ-dihydroxy-5(1-methylethyl)-3-phenyl-4-(phenylamino)]-1H-pyrrole-1-heptonoic acid, calcium salt (2:1) with molar mass 1115.36 g/mol whereas pitavastatin calcium (PTC) is monocalcium (3R,5S,6E)-7-[2-cyclopropyl-4-(4-fluorophenyl)-3-quinolinyl]-3,5-dihydroxy-6-heptenoic acid with molar mass 880.98 g/mol. The chemical structures of them are shown in the fig. 1. They are the statin drugs and are a potent inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase. They are used to reduce serum levels of LDL-cholesterol; apolipoprotein B and triglycerides and to increase serum levels of HDL-cholesterol in the treatment of hyperlipidemias and prevent of cardiovascular diseases in patients with multiple risk factors [1]. ATC is official in USP 34, IP [2, 3].

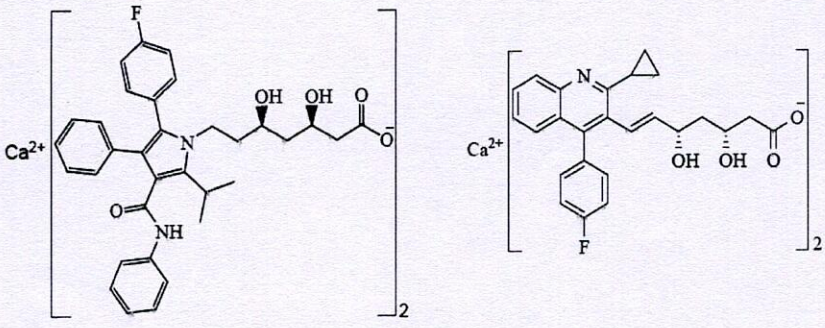

Fig. 1: Chemical structures of atorvastatin calcium (ATC) and pitavastatin calcium (PTC)

The literature survey revealed several analytical methods for the determination of both ATC and PTC. Chloroform extractable ion-pair complexes of AT with BCG, AR, BPB at 618.7, 512.8, 596.4 nm [4] and 1,2-dichloroethane extractable ion-pair complexes of statin drugs with Mo(V) thiocyanate [5], were reported. Colorimetric determination of ATC-green complex with ferric chloride, potassium ferricyanide at 787 nm [6], acetylation of ATC with p-dimethylaminobenzaldehyde, sulphuric acid at 540 nm [7], a red-colored charge-transfer complex of ATC with DDQ at 460 nm [8] have also been reported. In potentiometry, modified carbon paste

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Green Route Synthesis and Characterization of Cuprous Oxide (Cu_2O): Visible light Irradiation photocatalytic activity of MB Dye

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Abstract

A simple preparation, less time-consuming and cost-effective of Cu_2O nanoparticles is a p-type of semiconducting material and the band gap is (2.15 eV), the various particular shapes were prepared by different methods, an eco-friendly, gentle and low cost synthetic method natural green method has been developed to cuprous oxide Nanoparticles (Cu_2O NPs) and Cu_2O NPs synthesized by using benign natural green root such as guava fruit juice and Fehling's solution. The fabrication of octahedral shape of Cu_2O NPs was described by a natural green and simple chemical precipitation method in this study. The structural and morphology of the Cu_2O nanoparticles was studied using X-ray Diffraction analysis (XRD), Field Emission Scanning Electron Microscopy image (FE-SEM), Diffused Reflectance Ultraviolet-Visible spectroscopy (DRS UV-Vis) the functional group conformation of Cu_2O nanoparticles were characterized by Fourier-transform infrared Spectroscopy (FT-IR) spectroscopy. The morphology of Cu_2O nanoparticles looks like octahedral shape. The XRD revealed the structure of crystalline of the Cu_2O nanoparticles. The Cu_2Ophotocatalysis has been demonstrated to be an efficient photocatalyst towards methylene blue dye solutions.

Selection and/or Peer-review under responsibility of 2nd International Conference On Recent Advances In Material Chemistry.

*Key words:*Guava fruit, Fehling's solution, MB dye, Photocatalysis.

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Selection and/or Peer-review under responsibility of 2nd International Conference On Recent Advances In Material Chemistry.

Method Development and Validation of Pitavastatin Calcium and its Degradation Behavior under varied Stress Conditions by UV Spectrophotometric methods

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ABSTRACT: UV spectrophotometric methods for the determination of pitavastatin calcium in pure and pharmaceutical dosage forms were developed and validated as per ICH guidelines. The standard pitavastatin calcium solutions were scanned between the ranges of 200-400 nm. The maximum absorbance of pitavastatin calcium in DMF (method A), HCl (method B) and NaOH (method C) was recorded at 266 nm. They obeyed Beers law concentration in the range of 10-45 µg/ml (method A), 0.25-2.0 µg/ml (method B) and 0.25-2.0 µg/ml (method C) with correlation coefficients 0.9996, 0.9998 and 0.9998 respectively. Stability study showed high stability of pitavastatin calcium in acidic, alkaline medium and at high temperature, but undergone degradation in oxidative stress condition. The developed methods were validated for linearity, precision, accuracy, LOD, LOQ, ruggedness, robustness and recovery studies. The proposed methods can be successfully used for the routine quality control analysis of pitavastatin calcium in bulk and commercial pharmaceutical formulations.

Key words: Pitavastatin calcium, UV spectroscopic method, acid, alkali, oxidative, thermal and UV degradation.

INTRODUCTION

Pitavastatin calcium (PTC) is a drug which comes under the category of statin group. It is chemically called monocalcium (3R,5S,6E)-7-[2-cyclopropyl-4-(4-fluorophenyl)-3-quinolinyl]-3,5-dihydroxy-6-heptenoic acid with molar mass 880.98 g/mol. It is a potent inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase[1]. It lowers both total cholesterol and low density lipoprotein (LDL) cholesterol in both animals and humans. Metabolism of it by the cytochrome P450 is smallest, reducing the risk of drug-drug interactions. Like all other statins, pitavastatin calcium is used for controlling hypercholesterolemia and for the prevention of cardiovascular disease.

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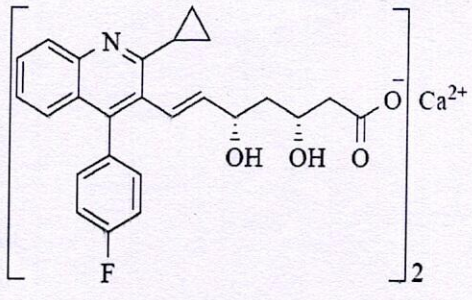

Pitavastatin calcium (PTC)

The chemical formula of PTC is $C_{50}H_{46}CaF_2N_2O_8$. PTC is odorless and looks like a white powder. It is hygroscopic in nature and very slightly unstable in sunlight. It is freely soluble in pyridine, chloroform, dilute HCl, DMSO and DMF. The literature review exposed several analytical methods for the determination of pitavastatin calcium by titrimetric[2], visible spectroscopic methods[3-6], stability indicating studies[7-9], fluorimetric method[10], chromatographic methods like HPTLC[11], RP-LC[12-13], HPLC[14], HPTLC[15] and LC-MS/MS[16-17], Electro analytical techniques.[18-19] The above reported

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Simple Titrimetric, Spectrophotometric and Gravimetric Methods for the Assay of Pitavastatin Calcium in a Green Manner

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Abstract

The conventional methods which consist of selective and accurate titrimetric, spectrophotometric and gravimetric methods are to develop and validate for the determination of pitavastatin calcium (PTC), an anti-cholesterol drug in pure and commercial dosage forms. Green reagents are used for developing the methods instead of toxic, direct brominating and iodinating reagents. The titration method which was carried out with bromometric mixture (potassium bromide and potassium bromate) is called bromometric titration (method A). Iodometric titration (method B) was done with iodometric mixture (potassium iodide and potassium iodate). Methods C and D involved the addition of a known excess of bromate-bromide mixture to PTC in acid medium followed by the estimation of unreacted bromine by its reaction with excess iodide and the liberated iodine (I_3^- ion) was either measured at 385 nm or liberated iodine which was reacted with starch followed by the measurement of the blue colored starch-iodide complex at 575 nm by spectrophotometry. In the gravimetric method (method E), 1% oxine was used as a precipitating reagent at the pH 10 and the precipitate was $Ca(C_9H_6NO)_2.2H_2O$. The obtained results were calculated and validated as per ICH guidelines. The developed simple methods are used for the routine analysis of PTC in quality control laboratories in a green manner.

Keywords: bromometry, gravimetry, iodometry, pitavastatin calcium, spectrophotometry, titrimetry.

INTRODUCTION

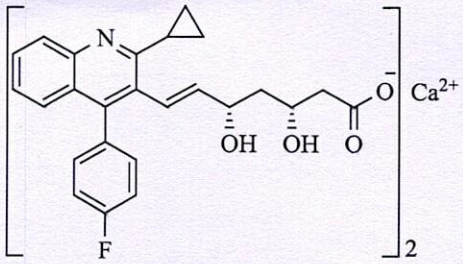

Figure 1: Chemical structure of pitavastatin calcium (PTC)

Pitavastatin calcium (PTC) is a drug which comes under the group of statin. It's chemical name is monocalcium(3R,5S,6E)-7-[2-cyclopropyl-4-(4-fluorophenyl)-3-quinolinyl]-3,5-dihydroxy-6-heptenoic acid with molar mass is 880.98 g/mol. The structure of PTC is shown in figure 1. It lowers cholesterol and low-density lipoprotein (LDL) in both animals and humans. PTC is used to control hypercholesterolemia and for the prevention of cardiovascular disease (CVD). PTC is an odorless and looks like a white powder. It is hygroscopic in nature and very slightly unstable in sunlight. It is freely soluble in pyridine, chloroform, dilute HCl, DMSO, and DMF.

Titrimetric analyses refer to the group of analytical techniques which takes advantage of titers or concentrations of solutions. In bromometry, bromine is employed as an oxidizing agent, because it is reduced quantitatively as the readily oxidized pharmaceutical organic substances in a reaction. In iodometry, an equivalent amount of iodine is liberated when the given sample of an oxidizing agent oxidizes potassium iodide in an acidic medium. The amount of iodine generated by these methods may be conveniently assayed by titration against a standard sodium thiosulphate solution. In this situation, a point of caution must be observed while KI is being oxidized under a strongly acidic medium so as to avoid simultaneous oxidation of iodide by atmospheric oxygen that may result from high erroneous titer values leading to false estimations. Gravimetric methods are quantitative in nature that is based on determining the mass of a pure compound to which the analyte is chemically related. Literature survey revealed that titration based bromometric methods and spectrophotometric determination using bromate-bromide mixture was carried out for atenolol and timolol [1], simvastatin [2], sumatriptan succinate [3], tamsulosin hydrochloride [4], amlodipine besylate [5], terbinafine HCl, Telmisartan and Ramipril [6], spectrophotometric determination of enalapril maleate [7], Mesalamine using iodometry methods [8], vardenafil and sildenafil with a mixture of potassium iodide and potassium iodate [9], spectrophotometric method for determination of PTC through colour reactions [10-13], Stability indicating studies of PTC [15-17], Fluorimetric method [18], chromatographic methods like HPTLC [19-20], reverse-phase liquid chromatographic methods [21-22], HPLC [23], LC-MS/MS [24-25], electro analytical techniques [26-27]. No one has reported the titrimetric and gravimetric determination of PTC. The aim of the present work is to develop highly selective and rapid methods for the determination of PTC in pure and pharmaceutical dosage forms using titrimetric and gravimetric techniques. Simple titrimetric and spectrophotometric methods were developed and validated for the determination of PTC using Winkler's solution as bromometric and iodometric methods. Determination of calcium from PTC in pharmaceutical dosage forms using oxine (8-hydroxyquinoline) by standard gravimetric method was also carried out.

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New records of *Chara zeylanica* var. *diaphana* f. *sundaralingii* (Meyen) R.D.W. forma nova from South India with SEM studies on oospore and molecular studies (rbcL)

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Abstract

Charales are freshwater macroalgae, extensively studied for their complex morphology. Detailed work on the distribution and taxonomy of Characeae of South India has been done by Sundaralingam (1959) and taxonomic studies of Characeae in India by Iyengar (1951), Desikachary and Sundaralingam (1962), Pal *et al.* (1962) and Vaidya and Gonzalves (1963). There are no recent studies on the taxonomy or distribution of Characeae of South India. In the present work a new *form* of *Chara zeylanica* var. *diaphana* f. *sundaralingii* (Meyen) R.D.W. forma nova from Trichur, Kerala, India is reported. The morphological characters of the vegetative and reproductive parts have been studied along with Scanning electron microscopic observation of the oospore. Further partial sequencing of the rbcL region was performed and BLASTed to confirm the identification of the *Charazeylanica*. However this is the first report on the molecular work and SEM work on the oospore of this new form *Chara zeylanica* var. *diaphana* f. *sundaralingii*.

Key words: *Chara zeylanica*, SEM, Oospore, rbcL sequence.

PRODUCTION, PURIFICATION AND CHARACTERIZATION OF CHITOSAN FROM *TRICHODERMA VIRIDE*

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Abstract: The extraction of chitosan from fungi is gaining significant importance in industrial Mycology. Fungi are thus the promising alternative sources of chitosan. Chitosan extracted from fungi are found to be more consistent and have desired phytochemical properties when compared to the product from crustacean sources. In the present study, Trichoderma viride cultured in Sabouraud dextrose broth and its wet mycelia were selected for chitosan extraction. For the purpose of comparing the yields, commercial chitin obtained from shrimp shells was used. The yield percentage of chitosan extracted from broth culture was found to be higher than that produced by wet mycelia and commercial chitin. Acetic Acid treatment was used for high yield of chitosan. It was also studied that when incubation period after acetic acid treatment during chitosan extraction was altered without changing the concentration, the yield was found to decrease drastically. When different ages of broth culture were used for chitosan extraction, 70 h culture gave a maximum yield. The extracted chitosan was then characterized based on properties such as nature, colour and solubility in water and different acids. The extracted chitosan from fungal culture were analyzed with commercial chitin using FTIR spectrophotometer and the results were found to be similar to the standard absorbance peak of chitosan.

***IndexTerms – T. viride*, Yield, Chitosan, FTIR, Commercial chitin.**

I. INTRODUCTION

Chitosan is a derivative of chitin, the second most abundant natural polymer on earth after cellulose. It is the major component of skeletal or exoskeletal structure of lower animals, particularly crustacea, molluscs and insects. It is also present in a vast majority of fungi as the principle fibrillar polymer of the cell wall. Fungal cell walls and septa of Ascomycetes, Zygomycetes, Basidiomycetes and Deuteromycetes contain mainly chitin, which is responsible for maintaining the shape, strength and integrity of cell structure (Ruiz-Herrera et al., 1992; Hon 1996). Chitin can be processed into many derivatives, the most readily available being chitosan. Rouget first discovered chistosan in mushroom. He derived it from chitin. Chitosan is produced by alkaline deacetylation of chitin. Chitosan, a natural polymer is a fiber like substance formed primarily by repeated unit of ß (1, 4) 2- amino, 2-deoxy, d-glucose or D-glucosamine (Varum et al., 1994). The molecular formula for chitosan is $(C_6H_{11}O_4N)$ n. Though it can be derived from chitin, it is also a natural component of fungi belonging to Zygomycetes. Chitosan occurs naturally in the Mucorales, in particular Mucor, Absidia and Rhizopus sp. There is apparently only one report on the presence of chitosan in a Basidiomycete, Lentinus edodes (Shiitake mushroom). Chitosan produced commercially from shrimp and crab shell. Recent advances in technology suggest that the cultivation of selected fungi provide an alternative source of chitosan is prepared from chitin contained in microbial biomass and in particular fungal biomass. Suitable biomass include *Aspergillus niger, A.terreus, A.oryzae, Lactarius vellereus, Mucor rouxii, Pencilliium chrysogenum, P.notatum, Saccharomyces cerevisiae* and in particular *Candida guillermondi, A.niger* and *A.terreus* (Fan et al., 2005). *Trichoderma viride* is a good source of chitosan. Separation of chitosan from *T. viride* was performed by Duo-Chan 2006. *T. viride* can be subjected to acid treatment to isolate chitin and deacetylated to chitosan. The chitosan was extracted, optimized and characterized by FTIR and finally glucosamine was determined.

II. RESEARCH METHODOLOGY

The methodology section outline the plan and method that how the study is conducted. This includes the collection, extraction, characterization of chitin and quantification glucosamine. The details are as follows;

2.1 Collection of Sample

Trichoderma viride was obtained from Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for women, Department of Plant Biology & Plant Biotechnology, Chennai. Cultivation of *T. viride* in Broth culture of *T. viride*was prepared in laboratory by culturing it in Sabouraud dextrose broth (SDB). About 400ml of SDB at pH 5.6 was prepared. 100 ml of broth was dispensed into each of the 4 conical flasks. The broth was inoculated with slant culture of *T. viride* maintained in Potato Dextrose agar slant and the flasks were inoculated in a rotary shaker at 220 rpm for 46, 70, 94 and 118 h at 25^{0}C respectively.

2.2 Experimental Design

Wet mycelia of *T. viride* were collected and examined microscopically. The mycelium and commercial chitin were subjected to alkali and acid treatment for chitosan extraction. Yield rate, yield percentage for different ages of broth culture were also compared. Extracted chitosan was characterized and then analyzed by Perkin Elmer FTIR spectrophotometer. The amount of glucosamine content in the extracted chitosan was then finally estimated.

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Biodiversity of the Microalgal Population in Chettikulam Pond of Tenkasi District, Tamil Nadu, India

K. Arulmeha Ponradha and C.B. Nirmala*

Abstract--- *The number of natural ponds of Tamil Nadu is declining at a phenomenal rate. Consequently, there is not only water scarcity but also a loss of biodiversity of microalgae. The record of phytoplankton is essential in order to know the endangering algal species in these freshwater bodies. Chettikulam pond of Tenkasi Taluk was chosen to monitor the microalgal population as it is subjected to continuous exploitation by human beings. Totally 107 species were recorded from four main classes namely, Chlorophyceae, Bacillariophyceae, Euglenophyceae and Cyanophyceae. The class Chlorophyceae was dominant with 53 species followed by Bacillariophyceae with 31 species, Euglenophyceae with 6 species and Cyanophyceae with 17 species. Diversity indices calculated from the results show that the pond has a moderate level of diversity and Palmer index indicates that the ponds are polluted by organic compounds.*

Keywords--- *Microalgae, Chettikulam, Diversity Indices, Palmer Index.*

I. INTRODUCTION

Algae are crucial autotrophs dwelling in almost all of the aquatic ecosystems. About 90 percent of the algae are aquatic and algal growth in various habitats significantly influences the ecosystem. The freshwater ecosystem is classified into two major types namely lentic (standing) and lotic (running) systems. The water bodies such as lake, pond, and dams come under lentic ecosystem while water bodies like streams and rivers are lotic ecosystems (Hutchinson, 1957). The term pond is used for the class of very small shallow water bodies. Many factors determine the overall build up of the lentic ecosystem.

A plethora of research publications have focused on the water quality and nutrient content of Indian freshwater resources. There is an alarming rise in concern for these water bodies as they are contaminated by domestic waste, sewage, agricultural and industrial effluents (Senthilkumar and Kathiresan, 2008; Sultana and Gupta, 2009). The major organisms of these freshwater bodies are blue green algae, green algae, euglenoids, coccolithophytes and silicoflagellates that indicate either the health or the pollution states of their habitats (Bhatnagar and Devi 2013). Algal members of Cyanophyceae, Chlorophyceae, Bacillariophyceae, Euglenophyceae are maximum in the fresh water bodies and mostly microscopic in nature with potential industrial and economic values (Rai 2006). These classes of algae are influenced by abiotic factors such as chemical constituents, light and temperature (Sen, 2019).

The potential of these organisms can be utilized in various fields such as food, feed, fine chemicals, bioenergy and bioremediation. They are rich sources of protein, carbohydrates and especially essential fatty acids (Falkowski

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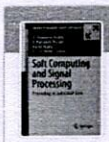

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A Novel Approach Using Support Vector Machine for Outlier Removal and Multilayer Perceptron in Classifying Medical Datasets

M. S. Padmavathi & C. P. Sumathi

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Abstract

Healthcare industry contains vast amount of data, where analysis is essential in an optimal manner. Data mining provides viable tools and methods to extract knowledge and predict the presence or absence of disease in medical datasets. Various efficient models for disease diagnosis are presented in this paper. The proposed model includes imputation by median followed by support vector machines (SVM) for removing the noisy instances and multilayer perceptron (MLP) in classifying the datasets. For the tested datasets, the newly developed model achieved a data reduction of 3.14, 22.72 and 23.82% using SVM which is relatively less compared to K-means and genetic algorithm (GA). Among the different tested classifiers, MLP attained a high classification accuracy of 99.85, 99.34 and 100% compared with Naïve Bayes and random forest. Further, the stability of the model is also tested on Wisconsin Diagnostic Breast Cancer (WDBC) dataset with no missing values.

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A Sentiment Classification on Indian Government Schemes Using PySpark

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ABSTRACT : With the rapid growth of social media, millions of users share their opinions everyday about different issues such as services, products, persons, politics, events etc. By analysing these social user's opinions the most valuable data can be obtained which is used for decision making in various domains. Sentiment Analysis in social media plays a vital role in monitoring of public opinion behind certain topics. Actually 92% of marketing professionals thought that social media has intense effect on their business. By doing an accurate sentiment analysis, winning might not be an impossible thing. Success does not depend only in the number of likes, comments or followers. It also depends in how much positive discussions have been held among the users of social media. The objective of this paper is to build a model that performs multi-class classification of Big data with improved accuracy. The proposed model uses a hybrid of Lexicon-based approach and Machine Learning based approach. In this paper, we have performed the sentiment analysis on the three Central Government Schemes namely Digital India, Swachh Bharat and Make-in India. The Apache Spark's Machine Learning library, MLlib has been used in order to achieve better results in sentiment analysis for the Big Data. The AFINN dictionary was used to label the tweets and bigrams feature set was used. The Hashing TF-IDF method was used to extract the feature vectors from the raw feature set. These vectors were classified by Random Forest classifier to determine positive, negative and neutral sentiments of tweets. The result from this model was tested by using the various testing metrics like accuracy, precision, recall and f-score. The higher accuracy of 89.27% was obtained.

Keywords: Sentimental Analysis, Twitter Data, Make-in India, Digital India, Swachh Bharat, PySpark, Random Forest classifier.

I. INTRODUCTION

Sentiment analysis of twitter data can be done by using various techniques such as corpus-based, dictionary-based and machine learning algorithms [4]. The authors reviewed some papers of sentiment analysis of twitter data. They have limited this paper to that of machine learning models and show the comparison of these models. It was found that almost 85% - 90% of accuracy was reached by using these models [3].

From the experimental results it shows that machine learning algorithms are very efficient and performs better in terms of time and accuracy. These techniques can be useful in various areas such as purchasing product/service, improving product/service, recommendation systems, decision making etc [14]. Day by Day millions and millions of tweets were generated in the twitter. The Challenging task is that analysing the sentiments and its classification based on the polarity. There are lots of work has been done on sentiment analysis of twitter data and lots need to be done [12].

The authors analysed the mindset of famous persons in every situation when they used to tweet. They collected the tweets about Narendra Modi and Rahul Gandhi. Both the personalities were compared by using number of likes, re-tweets, average length of all the tweets and polarity of tweets. The polarity of tweets has been found by using TextBlob [13]. The tweets about the popularity of iPhone6 were analysed. The authors extracted tweets from the seven major cities of USA. Totally 940 tweets were collected out of which 410 were from female users and 530 were from male users. The Stanford Natural Language Processing tool was used to pre-process the data. They used POS-tagger and Senti-WordNet for Sentiment Analysis [15].

The authors proposed a predictive model for sentiment analysis. They used Linear Regression with the parameters such as Customer's Age, Gender as dependent variables and prediction of future sale as independent variable. They used 75% of tweets as training set and 25% of tweets as testing set from 14,000 tweets. They analysed opinions about election status between Hillary and Trump. They achieved 85.23% of accuracy [1]. In this paper, the authors proposed a system of analysing sentiments by using SVM classifier. The Weka tool was used to analyse the performance of SVM. The tweets about self-driving cars and tweets about apple products were the two types of data sets used in this study. The accuracy of 59.91% and 71.20% has been obtained for self-driving cars and apple data sets respectively [8]. In this paper, the authors proposed the system of analysing the twitter data by using k-nearest neighbour (KNN) and support vector machine (SVM). ROC (Receiver Operating Characteristics) graph technique was used to select the classifiers which depend on their performance. From the graph it shows that the KNN always performs better than SVM. The accuracy of 80.80% has been obtained by using KNN [7]. A hybrid of KNN & SVM classifiers was used to analyse the sentiments in tweets. From the result it shows that the machine learning approaches in hybrid manner improves the accuracy of 76.17% [2].

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Effective Implementation of Pre-Processing Techniques in Machine Learning for Autism Spectrum Disorder

N. Priya, C. Radhika

Abstract: ***Autism Spectrum disorder (ASD) is a neurobiological developmental disorder is symbolize by means of the impairment of social interaction, stereotypic behaviours, and communiqué lack. Early deduction of ASD will enhance the fine of lifestyles of the affected person. The objective of the paper is to focus on the application of various Machine Learning strategies applied for the autism dataset for diagnosing ASD. In this study, the effective pre-processing techniques One-hot encoding, Splitting and Scaling are used to standardize the dataset and the Principal Component Analysis (PCA) evaluator method is applied for the best feature selection. This technique is investigated with various Machine learning techniques like Random Forest, SVM, Logistic Regression, KNN, Naive Bayes. Comparatively, the effective Pre-Processing technique with Random Forest model shows the better accuracy of 92% in diagnosing ASD. When with other metrics such as accuracy, precision, recall, F1-score, ROC, error rate.***

Keyword: ASD, Machine Learning techniques, PCA.

I. INTRODUCTION

ASD is a neuro developmental ailment that affects someone's studying skills, interplay and verbal exchange. Although the prognosis of autism may be carried out at any age however the signs and symptoms generally appear inside the first 24 months of life and develop thru time[17]. ASD youngsters are identified for their impairment in social interplay skills and deciphering the emotional facial features in other[18]. Autism Spectrum Condition (ASC) is a fixed of neuro development syndromes that affects mind functions [21]. ASD is characterized via repetitive behaviour, verbal and nonverbal communiqué, the want for sameness and irregularity in social interplay [25].

II. LITERATURE REVIEW

Machine Learning techniques play a dynamic role for diagnosing ASD in the analysis of dataset. This section, mainly focus on predicting ASD using different Machine Learning techniques. Fadi Thabtah [1] used DSM-5 tool to identify the ASD with merits and demerits. Padmapriya.S, et al.[2] proposed different pre-processing techniques like Chi-Square, Information Gain, Relevant feature selection and reduced the feature set. Relevant feature selection techniques gave more accuracy when compared to other techniques.

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Uma Rani.R et al.[3] proposed the comparison of classification algorithms with statistical models in autism dataset. Arodami Chorianopoulou et al. [5] used with different modalities like audio, text, video and with parent's action of interactions of typically developing(TD) and ASD children. The moderate accuracy occurred only due to engagement on parents behaviour.

Vaishali R. et al.[6] Used ASD data from UCI machine learning repository experimented with binary firefly feature selection wrapper and obtained a better classification reports on minimum feature subsets. Tibaduiza et al.[8] proposed a comparison study between the PCA (Principal Component Analysis) and ICA (Independent Component Analysis) were described. An significant difference between PCA and ICA were related to the quantity of components used in the technique. Kazi Shahrukh Omar et al.[9] proposed a model by merging random forest-ID3, Random forest-CART for predicting the autism traits. The evaluation done with AQ10 dataset and 250 real dataset collected from various persons. The results were compared in terms of different metrics. Sofia Visa et al.[10] created a subset of features based on criteria and yielding better accuracy using CART classification. Mofleh Al Diabat et al.[20] author described a new Ensemble Classification for Autism Screening(ECAS) to predict ASD traits and also reduces biased decisions. Paul Fergus et al.[21] proposed a 3D animation solution developed for Mobile device. It helps ASD people to understand the facial expressions and give awareness to engage real-time situations.

III. THE DATASET

The dataset entitled, "Autistic Spectrum Disorder Screening Data for Toddlers" is an open source dataset from Kaggle Repository. The dataset consists of 1054 observations of 18 features of different variable type. Dataset description is shown in Table1.

It contains categorical variables like Gender, Ethnicity, Jaundice, Family_members_with_ASD, Who is attaining test, Class/ASD Traits, as well as 10 binary variables representing the screening questions (A1 to A10), and 2 numeric variables (Age & Score).

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A New Method of Data Preparation for Classifying Diabetes Dataset

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Abstract

Objective: Millions of people including children and pregnant women are affected by Diabetes mellitus. Undiagnosed diabetes can affect entire body system including cardiac attacks, chronic kidney disease, foot ulcers and damage to the eyes Therefore an intelligent model should be developed for early detection of diabetes. **Method:** Data preprocessing is an important step in building classification models. Pima Indian Diabetes dataset from University of California Irvine (UCI) repository is a challenging dataset with more number (48%) of missing values. Different steps of data preprocessing is performed on Pima Diabetes to improve the accuracy of the classification model. The proposed model includes outlier removal and imputation at stage 1, normalization at stage 2 and balancing the dataset at stage 3. After each stage of preprocessing, the model is evaluated using three classifiers: Support Vector Machine (SVM), Random Forest (RF) and K-nearest neighbor (Knn). **Findings:** It is clearly proved that after each stage of preprocessing, the classification accuracy increases. On completing all 3 stages of preprocessing, the diabetes dataset achieves a highest accuracy (82.14%) and balanced accuracy (81.94%) with Random Forest classifier when compared to SVM and Knn. **Novelty/Improvements:** The preprocessing steps, replacing the outliers using 5 and 95 percentile values with median imputation followed by Z-score normalization and balancing the dataset using smote improves the quality of Pima Diabetes dataset, thereby classification accuracy of the model increases. The same data preprocessing methods can also be applied to different datasets or different classifier models.

Keywords: Balanced Dataset, Imputation, Normalization, Outlier Removal, Random Forest

1. Introduction

Enormous amount of data is available in the area of medical science. The data obtained may not be in a proper format for data analysis, hence raw data need to be preprocessed carefully for proper diagnosis of disease[1]. Data preprocessing is an important step in data mining which involves data transformation, imputation, outlier removal, normalization, feature selection and dimensionality reduction[2]. It is not necessary to involve all the steps of data preprocessing, but according to the nature of the data available, the required steps can be included in the model.

Outlier is a data point that is present far outside from rest of the data or population. They will adversely affect the results of statistical analysis. They typically serve to extend error variance, decrease normality and influence estimates which may affect the model[3]. The most common ways of treating outliers are K-means[4], Statistical Outliers[5], Genetic Algorithms (GA)[6], etc. Missing data occurs when no value is observed for the variable in a dataset. Missing data is common almost in every dataset. If missing range is less than 5%, then it is of no trouble, 5–15% is manageable with subtle techniques to handle the problem and if more than 15% can adversely affect the results of the model, therefore it should be handled in an efficient manner[7]. There are several ways to handle missing data, like single imputation (mean, median, mode, predictive score), multiple imputation, classifier as imputation, etc[8], but deciding the best method should be done according to the characteristics of the dataset.

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A Hybrid Classification Model using Genetic Algorithm and Support Vector Machine combined with Consistency-based subset evaluation for Feature Selection

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Abstract : Medical data mining is an area of application where classification accuracy is important. Specifically in the area of disease diagnosis, researchers have concentrated on hybrid classifiers to efficiently improve the accuracy of their model. The proposed hybrid model involves Consistency-based subset evaluation method in conjunction with re-ranking algorithm to find the best feature subset. The dataset with reduced features is subjected to three new hybrid classifiers: (1) Fuzzy-rough instance selection method with Support Vector Machine (SVM) as classifier. (2) Genetic Algorithm (GA) to remove the wrongly classified instances and Fuzzy-rough nearest neighbor for classification. (3) GA for selecting the instances and classification using SVM. The experimental results prove that all three suggested hybrid models provide better accuracy compared to the Fuzzy-rough instance selection and Fuzzy-rough nearest neighbor classifier as described in the literature. Among the proposed hybrid models, GA with SVM combination yields better result with a classification accuracy of 99.3% – 99.8%. Also the percentage of instance removal is considerably reduced using GA compared with Fuzzy-rough instance selection method.

Keywords — Classification, Consistency-based subset evaluation, Fuzzy-rough instance selection, Fuzzy-rough nearest neighbor, Genetic Algorithm, Support Vector Machine.

I. INTRODUCTION

Health care industry is accumulated with enormous amount of data which is too large and complex for processing and analysis. Hence, it is necessary to develop an effective computer-aided disease diagnosis and classification system for medical informatics [1]. In this research paper, experiments have been carried out on datasets of breast cancer, diabetes and heart disease to evaluate the proposed hybrid models. By performing suitable medical tests, earlier diagnosis of the disease followed by appropriate treatment is considered important for reduction in death rate. Therefore it is necessary to identify the presence of the disease at the initial stage and necessary precautions to be taken [2].

Missing data can have a significant effect on the conclusions drawn from the data. Even though there are several ways to handle missing data, deciding the best analysis strategy to yield the least biased estimates is important. Different ways of missing data treatment includes: (1) deletion methods (2) single imputation (3) multiple imputation, etc [3]. To improve the quality of data in the proposed work, data cleaning is done using deletion method and single imputation method. A comparative study is done between these two methods of data cleaning and its effect on classification accuracy. Feature selection is used to select a subset of variables which describes the input data while reducing effects from noise variables and still provide better prediction results [4]. To remove an irrelevant feature, it is necessary to have a feature selection criterion which can measure the relevance of each feature with the output class [5]. In this article, a selection criterion called Consistency measure is used which does not concentrate on maximizing the class separability, instead tries to retain the discriminating power of the data defined by original features [6]. Re-ranking algorithm is utilized in Consistency-based feature selection to minimize the number of wrapper evaluations and for effective search of feature subsets [1].

The current focus of the researchers is to combine several classifier systems to perform information fusion of classification decisions at various levels overcoming the limitations of single classifiers [7]. Fuzzy-rough instance selection method is used for selecting the instances based on the Fuzzy-rough positive region [8]. Genetic algorithms are adaptive, heuristic and robust which indicates that they can be applied to problems of any domain with slight modification of the representation, fitness evaluation and the parameters of the genetic operators [9]. Genetic algorithms are computationally powerful to remove the noisy instances as outliers. Fuzzy-rough nearest neighbor

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An Optimal Energy Consumption Based Resource Management in Mobile Cloud Computing

M. R. Sudha, C. P. Sumathi, A. Saravanakumar

Abstract: *This paper focused on optimal energy-efficient resource allocation management in the mobile cloud services. A resource management technique depicts the various resources reservation or blocking. Energy wastage is diminished, and revenue is amplified for mobile cloud providers. The recommended method holds two stages: a) beginning stage, the task impairment, delay time, resource utilization for every task has been individually calculated, and the enthalpy was measured, and b) the second stage, the enthalpy-based Optimal Energy Allocation Supervision (OEAS) algorithm was used to optimize the resources to the powerful resource management. In this paper, the problem of the limited and relatively small battery energy power in today's mobile devices has been restricted functionality which can include into these platforms. Diverse mobile cloud suppliers helpfully share the resources in a pool for improving resource allocation based on the users demand and distribute revenue in mobile cloud providers. The recent upgraded research in MCC from an existing work has been examined on the issues of managing resources and vital challenges in energy consumption. The new hazing technology of mobile users and robust business interests in mobile cloud environment which escort the innovative progress in mobile cloud computing. It operates intense energy methods with a low cost. This paper exhibits the research extent and classified various issues in energy saving in mobile clouds. Later, it analyzes the presented research results and mechanisms which establish its strengths and weaknesses. Energy consumption is a major problem being faced by mobile cloud computing. This paper recognizes and explains the open issues and idea of future research. The main objective is to reduce energy consumption, increase energy efficiency in computing devices and resource allocations management as well as in their executions. Energy conservation can be the optimal solution which is minimized by using less of an energy service.*

Index Terms: *Energy Resource Allocation, Mobile Cloud Computing, OEAS Algorithm*

I. INTRODUCTION

Mobile cloud has been evolved from the combination of both mobile and cloud platforms [1]. It is a recent technical innovative paradigm for strengthening mobile cloud users.

Mobile cloud computing promote the concept of mobile applications, data handling in data centers in the cloud. The mobile cloud computing reduces the execution time of mobile applications and minimizes the energy consumption of mobile devices [2]. The technique of allocating resources wishes to maintain the service quality (QoS) and energy efficiency. These are essential to get maximum resource utilization. To do this task, the resource pool has produced.

The main advantage of Mobile cloud computing is an ordered data storage and processing in remote mobile devices. A mobile cloud application transfers the data from mobile devices into the cloud. It is a new pattern of the data processing and storage computing in mobile clouds [3]. These are centralized applications which can be accessed over the wireless local area network like mobile browser. The profits brought by Mobile Cloud Computing which have been checked and verified as future mobile applications [4]. It refers to an emerging trend in a mobile device from which an application launched. It makes it simple way of data handling in the mobile cloud.The resource provisioning is a process of allocating, managing and controlling required resources like CPU, Memory, I/O Devices, Files etc. and which might be the main issue of mobile services [5, 6].The mobile users have experienced issues like low battery, offloading data in less memory and processing speed. The performance of MCC is evaluated by means of the resource allocation with varying QoS factors [7] such as availability, throughput, protection, response time, reliability and efficiency. Fig 1 gives the Mobile cloud computing architecture wherein the mobile users access the mobile cloud services directly from their applications or through mobile service provider using their mobile data.

Cloud computing offer three layered services like SaaS (Software as a Service), PaaS (Platform as a Service) and IaaS (Infrastructure as a Service) in collaboration with RaaS (Resource as a Service) [8]. It deals with many issues of how to manege resources, and migration of resources to mobile users. It is well predictable as essential harms, such as inhibited computing power mainly limited battery life [9]. These scarce resources are hard to support assessment of precise applications, for instance video gaming, image compression, and social Medias [10]. H.Viswanathan et al. [11] represented a resource provisioning Mechanism for arranging the assorted devices in the environs.

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COMPUSOFT
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A NOVEL APPROACH TO SEGMENT LEAF REGION FROM PLANT LEAF IMAGE USING AUTOMATIC ENHANCED GRABCUT ALGORITHM

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Abstract: Segmentation of leaf region from background is one of the essential pre-processing steps required in the Plant Leaf Image Processing. This paper proposes an innovative segmentation approach for extracting color leaf region from the healthy or infected plant leaf image with background using an enhanced automatic GrabCut algorithm that does not take any input from the user. In this method, first GrabCut algorithm was applied on the original image. The algorithm removes background but shadows remain in the resultant image which may cause misinterpretations in further processing steps. Hence, the shadows in the image were removed by thresholding 'a' and 'b' components of CIELAB color space. This step created holes in the infected region, which had similar color as that of shadow, of the leaf image. Hence, the image obtained was binarized and holes were filled with white (foreground) colorizing Flood Fill algorithm. From this binary image containing only leaf region, the color leaf region of the image was filtered. The accuracy achieved was 98%.

Keywords: Segmentation; Grab Cut; RGB Color Space; CIELAB Color space; Threshold; Flood Fill algorithm

I. INTRODUCTION

This paper proposes an accurate algorithm to segment leaf region from background. This is a pre-processing step required in research areas such as plant species classification, Content Based Image Retrieval (CBIR), classification of plant diseases and diagnosing nutrient stress in plants from plant color leaf image. The proposed algorithm removes background from the leaf image using automatic GrabCut algorithm. The shadows, if present, were not removed in this step. One of the challenges in this work includes removing shadows from the image. Further, the colors of some of the infected regions were same as that of shadow color. As a result, these regions were also removed while removing shadows. This may cause loss of information in subsequent steps of research. Hence, further processing is required to get the leaf region without holes. Finally, the leaf region without shadows and holes were obtained. Section II describes about the related work in this field. Section III deals with the materials and the image processing methods applied in the proposed algorithm. Section IV elaborates the proposed algorithm for background removal and the results. Section V discusses

A Systematic analysis of Data-intensive MOOCs and their key Challenges

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R S Nisha ; R Radha All Authors

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Abstract: Big Data blends modern technologies with numerous data management techniques to handle a wide variety of concerns that occur when operating with data of huge volume, vari... **View more**

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Abstract:
Big Data blends modern technologies with numerous data management techniques to handle a wide variety of concerns that occur when operating with data of huge volume, variety and velocity. Big data deals with complex semi-structured and unstructured data from several sources and formats which include Social Media content in free form, data from E-commerce sites, Weather forecasting statistics, Clinical Diagnosis, Share Market Transactions and Smart Computing Environments. In the same way, big data offers substantial prospects in the discipline of Education, E-Learning and Learning Analytics. Application of big data analytics in E-Learning helps to assess the quality of Teaching, Development of Curriculum, predict learning outcomes, Career Development and Readiness, Attrition Risks and Feedback Analysis. The Massive Open Online Courses (MOOCs) have produced a major influence on E-Learning with the availability of Live and pre-recorded Lectures, Easy-to-learn Tutorials, Novel Assessment Methodologies, Quick feedback and results. In this paper, we present the various Technologies that formulate the MOOCs and address the learning paradigms and key challenges.

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A Survey on Predicting Autism Spectrum Disorder using Machine Learning Techniques

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ABSTRACT: Autism Spectrum Disorder (ASD) is a developmental disorder of an individual's behaviors, communication, learning skills, and social interaction. The nature of ASD varies among individuals and brain-based or neurobiological disorder of development. Recent studies show that around one in sixty-eight people is diagnosed with ASD and overall 18 million people suffering from autism in India. Objective of the study is to identify ASD in the early stage to improve brain development and also provide the awareness of ASD to the parents and the caretaker. Nowadays Machine Learning techniques play a vital role in predicting Autism Spectrum Disorder. It is an application of Artificial Intelligence (AI) that focuses on the development of computer programs that can access data and use it learn for themselves. Several Machine Learning techniques are proposed by many researchers for diagnosing the various types of ASD in a fast and accurate manner. This paper proposes to classify and review the various Machine Learning techniques and discuss the features of ASD and performance evaluation using different metrics and identify the promising direction for future research and this review shows the Random forest algorithm gives better results compare with other algorithms.

Keywords: Autism Spectrum Disorder, Data Mining, Machine Learning.

I. INTRODUCTION

A. Autism Spectrum Disorder

Autism is a chronic disability that affects individuals who fail to make normal relations with other individuals. Nowadays, ASD is predicated at eighteen months based on the kid's social interaction but many kids are detected only at their three years or the first step to the schools. The different types of Autistic disabilities are Autistic Disorder, Asperger's Disorder, Childhood Disintegrative Disorder, Rett's Disorder and Pervasive Developmental Disorder-Not Otherwise Specified [19,22].

Autistic Disorder: This type of individuals delay with social interaction, stereotyped patterns or behaviors interests and restricted repetitive. This disorder affects the individual's motor skills, lack of eye contact and may have a fixation on specific parts of an object that are viewed by the individuals.

Asperger's syndrome: Asperger's syndrome is characterized as a unique ASD because they have normal communication/language development, though they have difficulty in understanding normal conventional social rules or lack of understanding in other's behaviors.

Childhood Disintegrative Disorder (CDD): CDD is also called as regressive autism. It is characterized by 2 to 4 years of normal development followed by the onset of autism symptoms like severe and sudden reversals in language, motor skills, social interaction, and behaviors.

Rett's Disorder: Rett's Disorder is a neurological disorder that affects only girl children. The children with Rett's syndrome haveslow growth when they are between 12 to 18 months and their head is usually small in size. This disorder is named MICROCEPHALY by the doctors and slow growth shows that the brain doesn't develop properly. Depending on the child Rett's syndrome various and some sequence of symptoms are breathing, sleep problems, teeth grinding, stereotyped patterns and slowly they lose their abilities in each level of their age.

Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS): This type of Child have impairments in social communication such as interactions or they often have repetitive behaviors like Hand-flapping, rocking, twirling or jumping. They may have a lack of eye contact, trouble in controlling emotions and high-pitched.

B. Characteristic Features of ASD

Every ASD child has unique abilities and the most common characteristics of ASD [9] are Impaired Social Interaction, Behaviour Patterns, Cognitive Problems, and Sensory Aspects are shown in Fig. 1.

C. Machine Learning Techniques

Machine Learning techniques which embodies the principle of automatic correlations and learning from the new algorithm. The present study focused on the application of various Machine learning techniques over the Autism Spectrum Disorder diagnosis. Fig. 2. Presents a list of Machine Learning techniques used in current trends [1,2 5].

Soil Nutrients Monitoring For Greenhouse Yield Enhancement Using Ph Value with Iot and Wireless Sensor Network

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***Abstract*—Soil nutrients play a vital role in the getting good yield for crops and to get quality product. In India till now the crops are grown with the help of traditional methods. As we all aware due to the increase in population requires an implementation of some new methods, which considerably give good yield of crops with less expense. The objective of this work is to propose such method for soil nutrients monitoring and management with automated irrigation using pH sensor which in turn identify pH value of soil using Arduino and Zigbee with IoT and Wireless Sensor Network. The proposed automated system designed with an objective of seed selection using pH value which can be considered as endeavour. water conservation, maintaining necessary temperature inside the greenhouse, which helps plants to get necessary warmth, nor too cold or hot and choosing necessary fertilizer for plants through which over feed or under feed of fertilizers can be avoided.**

Keywords — IoT, WSN, pH sensor, Arduino, Zigbee.

I. INTRODUCTION

Plants nutrition have been classified into two i) as macronutrients and micronutrients. The macronutrients are nitrogen (N), phosphorus (P), potassium (K), sulfur (S), calcium (Ca) and magnesium (Mg). Among these six NPK plays a vital role in growth of plants. Physical and chemical properties of soil determine the growth of plants. Soil properties are pH, color depth, fertility organic matter, texture and so on. Among which pH value is used to measure acidic and alkaline property of soils. The value of pH ranges from 0 to 14, where 7 stands for neutral, value less than 7 is considered as (pH acidic and the value above 7 is categorized under alkaline. Based on the pH value soil has been classified in to extremely acidic (pH 4.5), very strong acidic (pH 5.0), strongly acidic 5.5), medium acidic (pH 6.0) and neutral (pH 7.0). The ideal pH value is between 5.5 to 7.0.Almost all the time soil pH value does not fall in the permissible limit, issue arises due to this is , soil will not absorb the necessary nutrients which is required for plant growth and its healthiness. In extremely acidic soil 70% of fertilizer will be wasted, for very strong acidic 54% of fertilizer will be wasted, for strongly acidic 33% will be wasted, medium acidic 20% and for neutral 0% is wasted. It is always a big task to maintain the permissible range of pH value of soil.

II. RELATED WORKS

The author proposed a portable handheld device for testing soil with EC sensor, pH sensor and colour sensor. The system developed used to identify the colour texture, Electrical Conductivity and pH value of soil. In order to have proper knowledge about soil which usually farmers don't have, Soil test is required to identify necessary fertilizer and also to find the nutrients present in soil [1].

In order to automate irrigation and fertigation to get a high yield than traditional method author developed this system to monitor weather and soil property. Drip irrigation has been practiced for water conservation; minimize soil erosion since only the required fertilizers are injected in the field. The experiments were carried in maize and sugarcane field as surface and sub-surface irrigation respectively [2].

The author used fibre optic based colour sensor to decide N, P, & K values in the soil sample. With the principle of absorption of colours are absorbed to identify N, P, K amounts as high, medium, low or none. The system which was developed by author will dispense only the required amount of fertilizers in the soil [3].

The author used QUEFTS model (Quantitative Evaluation of Fertility of Tropical Soils) for assessing yield of crop in response to N, P and K application in different environments. The above model used six field data sets with maize, rice, and wheat crops grown in tropical and temperate regions [4].

The author proposed an e-Agriculture Application based on the framework consisting of KM-Knowledge base and monitoring modules. The system helped farmers to make better decision, and also provide needed information throughout entire farming. A knowledge based system with various sensors, which overcomes limitations of traditional

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Reducing End To End Delay Through Adaptive Greedy Search Algorithm For Wireless Body Area Sensor Network

E.Ramya, R. Gobinath

***Abstract*: Wireless Body area network is the most important research topic. It is under developing technology in the field of human health care. Body Area Sensor Network plays an important role to improve human health. In the proposed work implementation of wireless body area network connected through hibernating greedy algorithm is developed. The ultimate aim of the system is to reduce the end to end delay of the data transmission. Mobile network is used here and MATLAB based reconfigurable AI-Greedy Search algorithm is developed here. The proposed work enable the fast data transmission as well as Adaptive (adjustable network path) depends on the connective needs of the system.**

Keywords: Wireless Body area network, AI-Greedy Search Algorithm, MATLAB, End-To-End Delay.

I. INTRODUCTION

In Healthcare monitoring system the reliability of transmission of data with low delay is very important. Various technologies and methods have been used in transmission of medical data to the health care center. In this paper we used the Adaptive Iterative –Greedy Search algorithm to reduce the End-to-End Delay of data transmission.

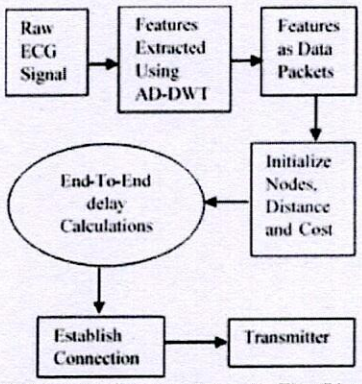

Figure1: Represents Proposed Operation Flow Diagram

1A. Transmission Delay

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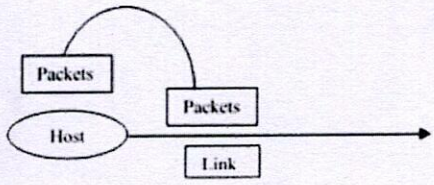

Figure2: Represents Transmission Delay Diagram.

Transmission delay is to transmit a packet on to the outgoing link is called transmission delay. The time taken to transmit the data packet from the host on to the outgoing link is called Tt Time taken by the host to put the data packet on to the link is called Tt.

Finding out the transmission delay.

If the Bandwidth is 1 bps. Therefore every second one bit is put on to the link. If the data size is 10 bits.

Bandwidth = 1bps
Data = 10 bits.

So the transmission delay is if the size of the data packet is L bits and the bandwidth is B bps then the time taken to transmit the data L bits is

$$T_d = (L/B) \text{ sec.}$$

Transmission delay depends on two things

1. If the length of the packet is too big obviously transmission delay is too big or too high.
2. If the bandwidth is high the transmission is less or low.

If L = 1000 bits B = 1 Kbps.

Then Tt = L/B = 1000/1000 = 1 sec.

Data can be expressed in the terms of powers of 2 and the bandwidth is expressed in the terms of powers of 10

1B. Propagation Delay (Tp)

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Research Paper

EFFECT OF UV-B LIGHT AND SUNLIGHT EXPOSURE ON THE VITAMIN D_2 CONTENT OF BUTTON (*AGARICUS BISPORUS*) AND OYSTER (*PLEUROTUS OSTREATUS*) MUSHROOMS

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Mushrooms are found to have vitamin D_2 in an inactive form (*ergosterol*), which when exposed to UV light can be converted to its active form (*ergocalciferol*). This study had scrutinized the vitamin D_2 content of cultivated button (*Agaricus bisporus*) and oyster mushrooms (*Pleurotus ostreatus*), treated post-harvest using UV-B (sample B) and sunlight (sample C) on exposing them to the respective treatments for 30 min each. The untreated mushrooms (sample A) of both varieties were used as a baseline comparator to the vitamin D_2 content in mushrooms exposed to sun and UV light. The mushrooms were exposed to sunlight between 11 a.m to 3.00 p.m, as it is the time when UVB radiation is at its peak. The vitamin D_2 content of the mushrooms were estimated using the liquid chromatography mass spectrometry. The UV light treatment caused an increase in the vitamin D_2 content of button mushroom from 0.41 to 7.41 µg/100 g and from 0.34 to 8.39 µg/100 g in oyster mushrooms. On exposure to sunlight, the vitamin D_2 content of button mushrooms was found to be 2.29 µg/100 g whereas that of the oyster mushrooms was found to be below the levels of quantification. Thus, UV light provides an effective method for increasing vitamin D_2 levels in button and oyster mushrooms.

Keywords: Button mushroom, Oyster mushroom, UV-B light, Vitamin D_2 content, Sunlight

INTRODUCTION

Vitamin D deficiency is fast becoming a pandemic affecting people across age groups, irrespective of the latitude they live in Palacios and Gonzalez (2014). Vitamin D, the prohormone (Holick, 2003), also known as calciferol, has two major forms: Vitamin D_2 and Vitamin D_3. Vitamin D is taken for granted and is assumed to be plentiful in our diet. Unfortunately, very few foods naturally contain Vitamin D, and only a few foods are fortified (Holick, 2004). Vitamin D_2 (ergocalciferol) is largely human-made and added to foods or is found in sources like mushrooms, yeast and fungi, whereas Vitamin D_3 (cholecalciferol) is synthesized in the skin of humans and is also consumed in the diet through the intake of animal-based foods (Holick, 2003; and Ross *et al.*, 2011). Even though Vitamin D production can be endogenous with sufficient skin exposure to solar ultraviolet beta (UV-B) radiation, this has become problematic due to wearing sunscreen, melanin, and aging, which interfere with solar exposure and can lead to Vitamin D deficiency (Koyyalamudi *et al.*, 2009 and Moyad, 2009). Therefore, recommendations now focus on exogenous dietary sources and are thus complementary to sun-safe practices (Weiler, 2015).

Functional foods can be considered to be those whole, fortified, enriched or enhanced foods that provide health benefits beyond the provision of essential nutrients (e.g.,

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Original Research Article

Effect of a Combined Nutraceutical Supplement on the Lipid Profile of Hypercholesterolemic Men

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ABSTRACT

BACKGROUND: The prevalence of hypercholesterolemia is on the rise in India. Hypercholesterolemia is implicated in the development of coronary heart disease. Current projections suggest that one fifth of the deaths in India are due to coronary heart disease. Evidence point to nutraceutical supplements with a hypocholesterolemic effect as capable of reducing the risk of coronary heart diseases.
AIM & OBJECTIVE: To examine the hypocholesterolemic effect of nutraceuticals an investigation was undertaken to determine the effectiveness of a combined nutraceutical supplement on hypercholesterolemic men.
MATERIALS AND METHODS: A pre-test, post-test experimental research design was used in this study. First screening for hypercholesterolemia was done on 90 males between 25-60 years. After screening, a purposive sample of 40 males having borderline hypercholesterolemia above 200mg/dl and below 240mg/dl, with a cardiovascular risk ratio above 4.5 were chosen for the study, The participants were included in the study after obtaining their consent to participate in the study. Out of the subjects chosen 20 were randomly assigned to the experimental group and administered the combined nutraceutical supplement which contained curcumin, lycopene, lutein and proanthocyanidin twice a day for a period of 60 days. The remaining 20 subjects who were in the control group did not receive any supplement. Fasting blood samples were collected from all the subjects both on the1st and 60th day for estimation of lipid profile. Paired t-test was used to compare the changes in the lipid profile between and within groups, p-value<0.05 was considered as significant.
RESULT: At baseline, both the experimental and control groups were similar with respect to anthropometric and lipid parameters. The experimental group showed significant reductions in levels of VLDL (mg/dl), triglyceride (mg/dl) and CHO/HDL with a concomitant increase in HDL (mg/dl) as compared to the control group. Total cholesterol (mg/dl), LDL (mg/dl), CHO/HDL levels decreased significantly in the experimental group after 60 days of supplementation with the combined nutraceutical supplement as compared to the initial levels.
CONCLUSION: The results of the study endorse the lipid lowering properties of the combined nutraceutical supplement.

Keywords: Nutraceutical, hypercholesterolemia, Lipid profile.

INTRODUCTION

Hypercholesterolemia is defined as excessively high plasma cholesterol levels. Hypercholesterolemia has emerged as a strong risk factor for Cardio vascular diseases (Stapleton, Goodwill, James, Brock

Stress Faced by Undergraduate Students: Reference with to Chennai City

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ABSTRACT

Stress is unavoidable. In this current scenario everyone is busy and most of them have more patients this makes all prone to stress. Students from arts and science college has been chosen the age group of 18 to 21 has been selected, only female students and their stress level has been analysed and tried to find the way to overcome the stress faced by them. There are various reasons behind the stress. The stress may be because of their future fear, academic, family & friends, financial issues, and other factor .These leads to many health problems like high blood pressure, anxiety, depression, mental illness etc. This study tries to know about the level of stress faced by undergraduate students. This era is very fast moving era, students have huge competition, pressure from family group all this create a great stress. Both husband and wife are compelled to work nowadays due to this children's get less love and affection from their parents this leads to increased level of stress. Stress is advisable to a certain point which we call positive stress. Without stress human beings are considered as dead bodies.

Keywords : Academic stress, financial issues and health problems.

The Impact Of Social Media On Emotional Health Among Young People's Lives

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ABSTRACT: In current modern life, social media is developing fast. It is widely access by many people all over the world. Social media is especially very popular among the young People. However, there are many young people who cannot control themselves and are addicted towards social media. The research state that the young people always check their cellphones every five minutes onces to see what is going on social media. Teenagers are among the most prolific users of social Networking Sites (SNS). The current studies find that youth spend a considerable portion of their daily life interacting through social media. Subsequently, controversies and questions emerge about the effects SNS have on adolescent development.

These objectives are to determine high profile concerns and controversies that surround youth participation in these online communities. To identify both the positive and negative impact social media has had on society as a whole. – Andto suggest more productive ways of controlling and implementing time.

This review helps to outlines the theoretical frameworks researchers have used to understand adolescents and SNS. It brings together work from disparate fields that examine the relationship between SNS and social capital, privacy, youth security and safety, psychological well- being, and displaced behaviour, and interruption in sleep due to blue light exposure, educational achievement the result of sedentary behaviours on mental health, displaced behaviour, and interruption in sleep due to blue light exposure, physical health problem and social media's effects on platonic relationships.

Keywords: Social Media, psychological well-being, sedentary behaviours on mental health, sleep interruption due to blue light exposure, and social media's effects on platonic relationships.

Awareness and Usage of Online Research Facilities by Faculty Members

K. Meenakshi, H. S Rupa H. S. Dhanalakshmi

ABSTRACT-: ***Online has become a platform for many scholars to update and share information in order to enrich and upgrade their research knowledge. Research plays a pivotal role in the career of the faculty members. Researchers visit library not to read books or journal they have an access only to e- journal. Only digital forms of information's are demanded by the faculty members. Research plays a vital role not only for the academician but it is also very important for the business to compete in this competitive world. The purpose of this paper is to know the awareness and usage of online research facilities by the faculty members and to motivate them to use online very effectively for their research purpose. A good research should try to fill the gap of the previous researchers and also provide a good platform for the future researchers. Researcher should try to address the new problems and come out with the valuable suggestion instead of digging the same problem addressed by the various researchers. The paper concludes that the faculty members should explore more opportunities with the help of internet in order to enrich the research knowledge..***

I. INTRODUCTION

Research plays a pivotal role in the career of the faculty members. Only with the help of research knowledge the management determines the salary, promotion, permanent, hike etc. Research should be a continuous process and ever ending process in the life of the academicians. A good research should try to fill the gap of the previous researchers and also provide a good platform for the future researchers. Researcher should try to address the new problems and come out with the valuable suggestion instead of digging the same problem addressed by the various researchers. Many researchers are not doing the research with full involvement and they are doing for the attainment of some specific purpose like getting degree, salary hike, promotion, to get job etc. They should enjoy in doing research, learning new aspects and enriching knowledge.

Faculty members should try to update knowledge related to their area of interest otherwise they will be outdated and cannot able to handle the classes very effectively. The curriculum are been updated according to the latest amended in order to keep the students face and survive this competitive world. Faculty members can enrich their research knowledge through publishing their research work in reputed journals, writing books in their area of specialisation, doing minor and major projects by obtaining grants from funding agencies, attending conferences, seminars, symposium, guiding the researcher in pursuing M.Phil and PhD etc. Through LinkedIn and academia researcher can share their views, opinion and gain knowledge about the research. Now a days with the help of internet and through online knowledge are been updated and improved even a certificate courses can be learnt from through online eg (NPTEL courses are offered in all the streams).

Many funding agencies are ready to fund for minor and major projects. The researchers are not coming out with the proposal to avail those golden opportunities. They fail to allocate time for research and updating their research knowledge. Due to poor network connection, laziness of the researchers, less interest to attend the conferences all theses decrease the knowledge and the quality of research.

Researcher has to access to online in order to do their research works. Online provide a wide access to information and help to do research activities effectively.

a) Google forms: It is a survey collection application. It helps to collect information from the respondents with less cost.

b) Inflibnet: Information and Library Network Centre. . INFLIBNET help in promoting research information among scholars in India.

c) Plagiarism checker: With the advent of information and communication technology, the data are available in the online. There is a chance of getting information copied as such. It is not ethical for the researcher.

d) Google: it is most visited website by the researcher. To have an access of any kind information the researcher can login in into Google to collect research information like introduction, review of literature etc.

e) SPSS Software: Data were analysed with the help of SPSS software. Tools are provided for the research only through SPSS.

II. REVIEW OF LITERATURE

1. Singh Gagan & Pant Rakesh (2013) Information has been playing a vital role in present era. After the creation of internet, it is growing day by day, covering all the fields related to knowledge. It would be helpful for learners to gain information. This study helps us to know about the importance of current and accurate information in one's respected field and by what other ways it would be

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Awareness and Usage of Online Research Facilities by Faculty Members

K. Meenakshi, H. S Rupa H. S. Dhanalakshmi

ABSTRACT-: Online has become a platform for many scholars to update and share information in order to enrich and upgrade their research knowledge. Research plays a pivotal role in the career of the faculty members. Researchers visit library not to read books or journal they have an access only to e- journal. Only digital forms of information's are demanded by the faculty members. Research plays a vital role not only for the academician but it is also very important for the business to compete in this competitive world. The purpose of this paper is to know the awareness and usage of online research facilities by the faculty members and to motivate them to use online very effectively for their research purpose. A good research should try to fill the gap of the previous researchers and also provide a good platform for the future researchers. Researcher should try to address the new problems and come out with the valuable suggestion instead of digging the same problem addressed by the various researchers. The paper concludes that the faculty members should explore more opportunities with the help of internet in order to enrich the research knowledge..

I. INTRODUCTION

Research plays a pivotal role in the career of the faculty members. Only with the help of research knowledge the management determines the salary, promotion, permanent, hike etc. Research should be a continuous process and ever ending process in the life of the academicians. A good research should try to fill the gap of the previous researchers and also provide a good platform for the future researchers. Researcher should try to address the new problems and come out with the valuable suggestion instead of digging the same problem addressed by the various researchers. Many researchers are not doing the research with full involvement and they are doing for the attainment of some specific purpose like getting degree, salary hike, promotion, to get job etc. They should enjoy in doing research, learning new aspects and enriching knowledge.

Faculty members should try to update knowledge related to their area of interest otherwise they will be outdated and cannot able to handle the classes very effectively. The curriculum are been updated according to the latest amended in order to keep the students face and survive this competitive world. Faculty members can enrich their research knowledge through publishing their research work in reputed journals, writing books in their area of specialisation, doing minor and major projects by obtaining grants from funding agencies, attending conferences, seminars, symposium, guiding the researcher in pursuing M.Phil and PhD etc. Through LinkedIn and academia researcher can share their views, opinion and gain knowledge about the research. Now a days with the help of internet and through online knowledge are been updated and improved even a certificate courses can be learnt from through online eg (NPTEL courses are offered in all the streams).

Many funding agencies are ready to fund for minor and major projects. The researchers are not coming out with the proposal to avail those golden opportunities. They fail to allocate time for research and updating their research knowledge. Due to poor network connection, laziness of the researchers, less interest to attend the conferences all theses decrease the knowledge and the quality of research.

Researcher has to access to online in order to do their research works. Online provide a wide access to information and help to do research activities effectively.

a) Google forms: It is a survey collection application. It helps to collect information from the respondents with less cost.

b) Inflibnet: Information and Library Network Centre. . INFLIBNET help in promoting research information among scholars in India.

c) Plagiarism checker: With the advent of information and communication technology, the data are available in the online. There is a chance of getting information copied as such. It is not ethical for the researcher.

d) Google: it is most visited website by the researcher. To have an access of any kind information the researcher can login in into Google to collect research information like introduction, review of literature etc.

e) SPSS Software: Data were analysed with the help of SPSS software. Tools are provided for the research only through SPSS.

II. REVIEW OF LITERATURE

1. Singh Gagan & Pant Rakesh (2013) Information has been playing a vital role in present era. After the creation of internet, it is growing day by day, covering all the fields related to knowledge. It would be helpful for learners to gain information. This study helps us to know about the importance of current and accurate information in one's respected field and by what other ways it would be

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Impact and Uses of Whatsapp Among College Students

K. Meenakshi, T. Anitha, K. Lakshmi

ABSTRACT-; ***Social networking means sharing information through network. It can be personal or official. Social networking sites are the boon to the college students which enhances the communication and connect with many people around the world. It helps the students to have contact with their own old friends who are far away from them and can also build new friends by forming a group. WhatsApp had become an important part in everybody' life like children, adults, teenagers and senior citizens too due to various features of the WhatsApp attracted the users. WhatsApp is free to download and was introduced to interact with the people easily. It has become a part and parcel of the life. The present study is an attempt to study the impact and the uses of WhatsApp with reference to the students of SDNB Vaishnav College for Women Chrompet, Chennai. This exploratory study has been conducted upon 230 respondents with a structured questionnaire. The data was analysed used SPSS packages. The study concludes that students should give importance to their studies instead of giving importance to the WhatsApp. Students should try to restrict the usage of WhatsApp in order to avoid health problems and see to it they are fit.***

Keywords: Social networking, WhatsApp.

I. INTRODUCTION

WhatsApp started in the year 2009, with the tag line "Simple, Personal, Real time messaging". It is a mobile messaging app which allows the users to exchange messages without paying for SMS. It is a text messaging alternative which is used with the help of net connection through data plan or Wi-Fi connection. User can send unlimited number of message and receive message without any restrictions. They can also form groups with their family, friends, co workers etc. They can closely connect with the people in abroad. Once we download the app all our contact list members will be a members in WhatsApp. You can also block the contact number which you don't wish to receive any message. If you don't wish to be a group you can come out of that group through exist group. Apart from texting we can also send photos, videos, call through video and voice call etc.

II. IMPORTANCE OF WHATSAPP

1. Message : With the internet connection one can send or receive messages from all over the world without any SMS cost
2. Communication: It has voice calls and video call features. We can even communicate with our friends who are outside the country. We can also have face to face interaction with the help of video call.
3. Documents sharing: it enables us to share our photos, videos instantly. Even we can send documents in text, PDF, slide shows etc. We can send documents upto 100 MB
4. Chatting: We can keep in touch with our old friends, family members, co workers etc. We can form a group a maximum of 256 people in one group.

Positive Impacts of WhatsApp

- ❖ It is an effective tool for education.
- ❖ It creates awareness and information about the happening around the world.
- ❖ Spreads information to many people at a time by sending message in a group.
- ❖ It helps us to communicate and chat with people in abroad.
- ❖ It helps us to connect with the friends, relatives and helps to make new friends.

Negative Impacts of WhatsApp

- ❖ Students are becoming victims of cyber bullying.
- ❖ Hacking of personal contacts.
- ❖ Students get addiction to WhatsApp and they fail to concentrate on their studies.
- ❖ More usage of WhatsApp affect the physical and mental health of the students,
- ❖ Fail to communicate directly. Face to face interaction has been reduced due to WhatApp.

III. REVIEW OF LITERATURE

1. Levent Cetinkaya(2017) The purpose of the study was to explore the effects of WhatsApp use for education and determined the opinions of students towards the process. The analysis indicated that both learning environments have different effects on the success of students and that supporting the traditional environment by using WhatsApp are more effective for the increase of success. For the qualitative aspect of the study, content analysis techniques were employed to analyze the data which were collected by open-ended question forms. The analysis showed that students developed positive opinions towards the use of

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India two Wheelers Go Electric-Setting Stage for the E-Revolution

S. Seethalakshmi, K. Shyamala

***Abstract*— The Automobile industry across the globe is witnessing a transition. The United Nation's Convention on Climate change 2015, has set tall orders for all the countries to reduce the carbon imprint to save the globe. Transportation sector accounts for 70% of the use of the fossil fuels world over. So the countries across the globe are shifting to Electric Vehicles for mobility. India has initiated Policy measures prescribed by NITI AYOG the think tank of India to convert to 100% Electric vehicles by 2030. The Indian Automobile market is dominated by two wheelers which accounts for nearly 80% of the total market share for vehicles in India. The Electric revolution therefore has to begin with and be geared by the Two wheelers automotive market.**

***This article explores whether the Indian market is prepared for the electrical transition on two wheels. Although the Electric two wheelers are beset with several limitations the thrust is on reducing CO2 emissions and also to reduce the dependence on the fossil fuel imports. This paper consolidates the present Eco system for the Electric Two wheelers market in India and the road ahead. The study throws light on all the aspects relating to manufacturing and development of the ecosystem for E- Two wheelers.**

The article analyses whether there is awareness among public about the need to switch over to electric two wheelers to mitigate the effects of pollution. It analyses the factors that could influence the decision of purchasing electric two wheelers. The study also tries to identify the features that the electric vehicle users look for in the new electric models. This study is most relevant in the sunrise sector of electric vehicles which have made debut in the Indian market in 2015 only. The study gains significance because the Electric two wheeler market in India is in infancy and this study will throw some light on the market reaction to the E- revolution.

Key words: Electric two wheeler, ICE vehicles, Lion vehicles

I. INTRODUCTION

The Automobile industry across the globe is witnessing a transition. The United Nation's Convention on Climate change 2015, has set tall orders for all the countries to reduce the carbon imprint to save the globe. Transportation sector accounts for nearly 70% of the use of the fossil fuels world over. So the countries across the globe are shifting to Electric Vehicles.

INDIAN SCENARIO:

As a member country of UNO, India has committed on the United Nations Framework Convention on Climate Change to shift to Electric vehicles by 2030.

- India houses 13 out of the 20 most polluted cities in the world [1].
- Indian auto industry is the 4th largest in the world next to China, USA,and Japan[2]
- India is the biggest importer of crude oil and transport sector the major consumer[3].
- India is surplus in electricity generation since 2015.

Therefore India has to make rapid shift from ICE vehicles (Internal Combustion Engine vehicles that operate on Diesel and Petrol) to EV(Electric Vehicles).

The predominant reasons ushering the transition to Electric Vehicles (EV) are:

- To reduce the crude oil imports and dependence on fossil fuels.
- To provide cost effective transportation in the long run
- To reduce air pollution & noise pollution and create a clean environment.
- To tap the global opportunity in EV market.
- To facilitate growth and manufacturing capacity in the sunrise sector
- To utilise the skilled manpower in the manufacturing automobile sector
- To identify green and cheaper energy sources

In this context this article explores whether the Indian market is prepared for the electrical transition on two wheels.

II. OBJECTIVES OF THE STUDY

Part 1- Discussion –E- Vehicle Ecosystem for two wheelers in India

1. To consolidate the information on the Eco- system for the Electric Two wheelers.
2. To throw light on all the dynamics of ecosystem for E- Two wheelers.

Part 2- The Survey

3. To study the demographic profile of the Two wheeler users.
4. To know the awareness and preference for E-2wheelers in the study domain.
5. To identify the factors influencing consumers decision to purchase E-2 wheelers.

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Digital transformation of Indian Business- An analysis

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ABSTRACT

India is celebrating 4 years of digital empowerment since 2015, when the Digital India campaign was launched. The Digital transformation has spread roots across all facets of the life of the Indians. It has made a big impact on the way business is being done in India. India has risen to Rank 77 in "Ease of doing business" from 130th place in 2016 [1]. The digital empowerment has laid a strong foundation for the economic growth and business development. India has become the fifth largest economy in terms of GDP and is among the fastest growing major economies. Digitisation has augmented the potential of the Indian business houses.

1. INTRODUCTION

DIGITAL INITIATIVES DRIVING THE TRANSFORMATION

Demonetisation in 2016, followed by several **digital initiatives** changed the economic scenario in India transforming India into a digital and cash-less economy. Some of the reformative initiatives are:

- Introduction of unique digital identity through Aadhar card to the 1.2 billion Indians
- Financial inclusion of 318 million Indians through new bank accounts(Jan Dhan Yojna)
- Linking of Adhar and bank accounts,
- Encouraging digital transactions through net banking, UPI, BHIM

These initiatives have enhanced participation of the common man in the nation's digital progression. **The financial inclusion of common man and promotion of cashless transactions was the epicentre of the Digital revolution.**

DIGITAL GROWTH OF INDIA

India witnessed phenomenal growth in Digitisation.

- In 2018 India has recorded more than 560 million internet subscribers, second largest in the world next to China.
- 354 million Indians are smart phone users, second largest in the world next to China [1].
- India has transformed into the biggest market of digital users.
- India is digitising faster than all other nations in the world and there is still lot of scope for growth. Indian digital adaptation rate between 2014 and 2017 was 90%. [2]
- Introduction of GST- Goods and Services tax has increased transparency in business transactions and revenue collection. GST Network has brought nearly 10.3 million tax payers into a single digital platform.

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Benefits and Challenges of Online Food Ordering and Delivery Service - with Special Reference to Working Women in Chennai

K. Shyamala, R. Subhasri

Abstract: ***Online food delivery services like Zomato, Swiggy, Uber eats etc., is very common in Chennai, serving food to the customers at their doorstep in round the clock. This study was basically conducted to analyse the benefits and challenges of online food delivery services and its relationship with the socio-economic aspects of the working women in Chennai. This study was aimed to explore the benefits and challenges of online food deliver and to find the relationship between demographic profile of the working women and factors of online food delivery. : The study mainly depends on the Primary data collected through a well-structured Questionnaire distributed to in Chennai alone. The result shows that there is Perfect association between age and educational qualification of the working women and cluster groups.***

Keywords: Online food delivery, Benefits, Services and satisfaction.

I. INTRODUCTION

Technology and Internet have paved the progression in various sectors like Research, Communication, Banking, Textile, and Medicine including Food industry also. Like online purchase of goods, phone-based to online ordering of food is also familiar through a web page or app. Online food delivery services like Zomato, Swiggy, Uber eats etc., is very common in Chennai, serving food to the customers at their doorstep in round the clock. This study was basically conducted to analyse the benefits and challenges of online food delivery services and its relationship with the socio-economic aspects of the working women in Chennai.

II. REVIEW OF LITERATURE

Sethu H S & Bhavya Saini (2016), investigated the student's perception, behaviour and satisfaction of online food ordering and delivery services and the study reveals that online food purchasing services help the students in managing their time better. It is also found that ease of availability of their desired food at any time and at the same time easy access of internet are the prime reasons for using the online food services.

Neha Parashar Ms Sakina Ghadiyali (2017), aims to find the most popular food app in food delivery industry. 129 respondents were taken for the study to analyse the customers' usage of food delivery apps and their socio economic characteristics. Structured questionnaire was tested through Cronbach alpha. Statistical tools like chi-square, weighted average and descriptive analysis were used. The study reveals that, consumers selecting food delivery app on the basis of facilities offered for the purchase and cash on delivery is the preferred mode for the payment.

Jyotishman Das (2018) analyzed the consumers' perception towards online food ordering and delivery services in Pune City. By using Non probability sampling method, data was collected from 153 online food app users. It is identified that, consumers prefer Zomato and Swiggy online food service providers because of good rewards and cashbacks offers provided by them.

Karishm Sharma, Karee Abdul Waheed (2018) tried to identify how the consumers use online food ordering app. Standard survey collection method has been adopted to collect the questionnaires from the Expatriate college students in Dubai . The sample size taken was 45 students and tools applied were percentage analysis. The results reveals that zomato is a most favourable online food ordering app and spent between 51-100 AED at a reasonable amount to order the food.

Suryadev Singh Rathore and Mahik Chaudhary (2018) analysed the consumers' preference and the factors which influence the consumers to order the food in online. By using structured questionnaire, data was collected from 120 respondents of Indore City. The study reveals that youngsters are attached to Ubereats and Zomato online ordering services. Discounted prices and offers, convenience and on- time delivery are mainly influencing the consumers to order in online app.

III. OBJECTIVES OF THE STUDY

- To study the socio- economic aspects of the working women in Chennai.
- To know the working women's perception towards online food service in Chennai
- To analysis the benefits and challenges of online food delivery.

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Impact of Emotional Marketing on Consumer Buying Behaviour

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ABSTRACT:

Emotion plays a very important role in Marketing. So Marketers should try to concentrate on Emotional Marketing rather than Rational Marketing since Emotional Marketing tends to make some logic in the consumer's behaviour for purchasing the product. Nowadays, Consumers are not interested to know about the attributes of the product they buy the products which have attracted them emotionally.

Emotional Marketing plays a crucial role in increasing the sales of different products and services. It lays down the impression in the minds of the consumers to purchase the products. The purpose of the study is to explore the impact of Emotional Marketing in Consumer Buying behaviour. The area of the study is Chennai, Tamil Nadu,India. The simple random sampling technique is used to collect primary data through structured questionnaire. Factor Analysis was implied on the data collected to identify the factors affecting consumer buying behaviour and its impact on Emotional marketing.

The findings revealed that the consumers were influenced emotionally to purchase the products which in turn induced them to become brand loyal towards the products. Emotions such as Affection , Anxiety, Confidence, Desire, Envy, Excitement, Happiness, Loneliness, Pleasure , Pride , Relief, Satisfaction, Trust, Surprise, Calmness, Idleness, Boredom, Sadness and Fear plays a vital role in deciding the purchase pattern of consumers and hence this study focuses on the relevance of emotions in Consumer Buying Behaviour.

Keywords:

Emotional Marketing, consumer buying behaviour, Rational marketing, brand loyalty.

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7students' Awareness and Perception About Genetically Modified Food

D. Lalitha, J.Priya, A.V. Jisha Kumari

ABSTRACT-; ***Genetic engineering and Biotechnology are the promising discipline of study in the global market. Genetic alterations are carried in indigenous species with increased sophisticated strategies and techniques to yield hybrid varieties. In Food biotechnology, Genetically Modified Foods have become new, revolutionary and emerging concepts to fulfil the food crisis encountered by developing countries such as India. Genetically Modified foods are produced from the native species by genetically modifying the genes and the modifications are created in accordance to the requirement of the end users. Different indigenous ancient species have been merged to produce new hybrid varieties that are healthy and offers many benefits. Many GM food products are accessible in the markets like grain hemp, honey, tomato, sweet potato, sweet corn, meat, essential oils etc. Developed countries possess a wide understanding about GM foods, its labelling and traceability. However in Developing countries like India, the individuals are unaware about GM foods and they ingest the food without knowing that it is genetically altered. Since awareness about GM foods are less amongst the population, Government need to take necessary measures to analyse about impacts caused by GM foods on human population and implement legislations in order to label the GM food items. As students are definitely the asset and the back bone in developing country they must be conscious of what they consume. The current study is in order to know about students' awareness on genetically modified food products and their perception towards GM foods. The Sample involves 163 college students of arts and science in and around Chennai metropolis.***

Key words: Genetically modified foods, Biotechnology, Genetic Engineering, Hybrid.

I. INTRODUCTION

Genetically modified foods are varieties which are attained by modifying the genetic characteristics in native species by using latest molecular techniques. The hybrid varieties which are obtained may possess enhanced characteristics such as resistance to pesticides, insecticides, disease and drought resistance, high nutritional content and yield. Genetically customized foods are introduced in the market in early 1990's. The genetic modifications are carried out either interspecifically or intraspecifically. GM food items has gained its significance in developed countries and yet to gain its importance in Developing countries. Knowingly or unknowingly, Indian population are consuming GM food like sweet potato, sweet corn, tomato, soybean, meat, oil, cotton, grain hemp etc . Genetically Modified Cotton is produced by India on a mass basis.

In Developing countries like India presently there is an enormous increase in population, and to provide food towards the growing population we adopt alternate technology. Genetically Modified Foods have turned into a promising solution to satisfy the food crisis. India has developed modern technological methods to improve GM food production and have gained importance in global food marketing from the year 2002.Typically the marketers have to seek out for permission and approval from the government to grow and enhance marketing of GM products. They ought to get approval for labeling and to export the products to international food markets. Genetic Engineering Authorization Committee (GEAC) has to approve that the GM food products are safe for the human consumption. Many online marketers fail to get endorsement from the concerned expert that will lead to negative influence on the health of the consumer.In Developed countries labeling has been made obligatory for selling the GM products where as in India labeling of GM foods are not carried out in an effective way. It need to be strictly made mandatory and stringent legislations need to be implemented. The key advantages of genetically altered foods include reduction in usage of manures and chemical products, boost in the yield, very long time of storage, production of new varieties, Elimination of intolerance and easily affordable.

II. REVIEW OF LITERATURE

Kyrre Rickertsen Norwegian, et al., (2017):- Consumer resistance against GM crops is still substantial in the United States and Europe. We conducted an internet survey in the United States and Norway with more than 1,000 respondents in each country to estimate consumers' willingness to pay (WTP) for GM soybean oil, farmed salmon fed with GM soy and GM salmon. The differences in WTP for the conventional as compared with the GM alternatives are relatively small.

Mürsel Tas et al., (2015):-The results of the survey showed that consumers generally know what genetically modified organisms (GMOs) are, but they do not have enough information about the genetic modification process. The main concerns of consumers about GMFs are their carcinogenic effects to human. In addition, corn was found to be the most concerned GMF. The usage of GMOs in health sector and in preventing environmental pollution

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A Study on the Challenges Faced By the Irula Tribal Women to Become Entrepreneur -With Special Reference To Thandarai Village

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Abstract

Entrepreneurial skills are essential for creating self-employment and giving employment opportunities to others. Both the Central and the State Governments are trying to promote entrepreneurship especially among economically backward castes, particularly Schedule Castes and Schedule tribes. Schedule tribes constitute 8.6% of country's total population. This paper focuses on entrepreneurship opportunities available to the Irula tribal women selling Medicinal plants with 52 respondents using simple statistical tools like percentage analysis, factor analysis and t-test.

Keywords: Irula Women, Medicinal plants and Entrepreneur

INTRODUCTION

Tribal communities live in various geographical areas ranging from hills, forests and inaccessible areas. Traditionally they are inseparable part of the forest ecosystem.One of the Primitive tribal community of State of Tamilnaduis the Irulas.They are a community in transition classified under Scheduled Tribes.

Traditionally Irula men indulge in Snake catching and skinning for livelihood while Irula women are fine vaidyars (herbal doctors). They have patients baring geographical location. They risk their lives to collect rare herbs from interior forest.These Tribes have a great source of knowledge about plants with Medicinal values. The knowledge about the Medicinal values of the plants available in the forest are passed from one generation to another by practice.

Irulawomen inhabiting at the Thandarai Village of Chengalpattu district, have constituted an association, Irula Tribal Women's Welfare Society -ITWWS through which medicinal plants are sold. This study tries to find out the opportunities available to the Tribal Women to become Entrepreneurs by selling Medicinal plants.

LITERATURE REVIEW

Prof. M. A. Lokhande (2016) carried out a research study to examine the need and importance of entrepreneurship among the economically backward communities like Scheduled Castes and Scheduled Tribes in the present world particularly Marathwada Region. The researcher undertook to probe into the entrepreneurial process, problems and challenges faced by **150 SC/ST entrepreneurs** with the help of statistical tools like **percentage analysis and simple averages.**

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The Impact Of Social Media On Emotional Health Among Young People's Lives

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ABSTRACT: In current modern life, social media is developing fast. It is widely access by many people all over the world. Social media is especially very popular among the young People. However, there are many young people who cannot control themselves and are addicted towards social media. The research state that the young people always check their cellphones every five minutes onces to see what is going on social media. Teenagers are among the most prolific users of social Networking Sites (SNS). The current studies find that youth spend a considerable portion of their daily life interacting through social media. Subsequently, controversies and questions emerge about the effects SNS have on adolescent development.

These objectives are to determine high profile concerns and controversies that surround youth participation in these online communities. To identify both the positive and negative impact social media has had on society as a whole. – Andto suggest more productive ways of controlling and implementing time.

This review helps to outlines the theoretical frameworks researchers have used to understand adolescents and SNS. It brings together work from disparate fields that examine the relationship between SNS and social capital, privacy, youth security and safety, psychological well- being, and displaced behaviour, and interruption in sleep due to blue light exposure, educational achievement the result of sedentary behaviours on mental health, displaced behaviour, and interruption in sleep due to blue light exposure, physical health problem and social media's effects on platonic relationships.

Keywords: Social Media, psychological well-being, sedentary behaviours on mental health, sleep interruption due to blue light exposure, and social media's effects on platonic relationships.

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Benefits and Challenges of Online Food Ordering and Delivery Service - with Special Reference to Working Women in Chennai

K. Shyamala, R. Subhasri

Abstract: ***Online food delivery services like Zomato, Swiggy, Uber eats etc., is very common in Chennai, serving food to the customers at their doorstep in round the clock. This study was basically conducted to analyse the benefits and challenges of online food delivery services and its relationship with the socio-economic aspects of the working women in Chennai. This study was aimed to explore the benefits and challenges of online food deliver and to find the relationship between demographic profile of the working women and factors of online food delivery. : The study mainly depends on the Primary data collected through a well-structured Questionnaire distributed to in Chennai alone. The result shows that there is Perfect association between age and educational qualification of the working women and cluster groups.***

Keywords: ***Online food delivery, Benefits, Services and satisfaction.***

I. INTRODUCTION

Technology and Internet have paved the progression in various sectors like Research, Communication, Banking, Textile, and Medicine including Food industry also. Like online purchase of goods, phone-based to online ordering of food is also familiar through a web page or app. Online food delivery services like Zomato, Swiggy, Uber eats etc., is very common in Chennai, serving food to the customers at their doorstep in round the clock. This study was basically conducted to analyse the benefits and challenges of online food delivery services and its relationship with the socio-economic aspects of the working women in Chennai.

II. REVIEW OF LITERATURE

Sethu H S & Bhavya Saini (2016), investigated the student's perception, behaviour and satisfaction of online food ordering and delivery services and the study reveals that online food purchasing services help the students in managing their time better. It is also found that ease of availability of their desired food at any time and at the same time easy access of internet are the prime reasons for using the online food services.

Neha Parashar Ms Sakina Ghadiyali (2017), aims to find the most popular food app in food delivery industry. 129 respondents were taken for the study to analyse the customers' usage of food delivery apps and their socio economic characteristics. Structured questionnaire was tested through Cronbach alpha. Statistical tools like chi-square, weighted average and descriptive analysis were used. The study reveals that, consumers selecting food delivery app on the basis of facilities offered for the purchase and cash on delivery is the preferred mode for the payment.

Jyotishman Das (2018) analyzed the consumers' perception towards online food ordering and delivery services in Pune City. By using Non probability sampling method, data was collected from 153 online food app users. It is identified that, consumers prefer Zomato and Swiggy online food service providers because of good rewards and cashbacks offers provided by them.

Karishm Sharma, Karee Abdul Waheed (2018) tried to identify how the consumers use online food ordering app. Standard survey collection method has been adopted to collect the questionnaires from the Expatriate college students in Dubai . The sample size taken was 45 students and tools applied were percentage analysis. The results reveals that zomato is a most favourable online food ordering app and spent between 51-100 AED at a reasonable amount to order the food.

Suryadev Singh Rathore and Mahik Chaudhary (2018) analysed the consumers' preference and the factors which influence the consumers to order the food in online. By using structured questionnaire, data was collected from 120 respondents of Indore City. The study reveals that youngsters are attached to Ubereats and Zomato online ordering services. Discounted prices and offers, convenience and on- time delivery are mainly influencing the consumers to order in online app.

III. OBJECTIVES OF THE STUDY

- To study the socio- economic aspects of the working women in Chennai.
- To know the working women's perception towards online food service in Chennai
- To analysis the benefits and challenges of online food delivery.

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A Study On Role Of Social Media In E-Learning

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Abstract

Today's fast-changing environment and fast-paced lifestyle, technology has continually enabled us to keep up. It made our daily activities faster and more efficient; trade and commerce more fluid; and communication easier despite distance, among other things. An attempt was made to know the awareness level and the role of social media among students in Chennai, and the usage of social media e tools for learning. Research design used for the study is descriptive research. The researcher has used convenience sampling method and Data collection was made using Google forms. From the study it was found that majority of the respondents prefer whatsapp application for e learning followed by the YouTube. Twitter app is the least preferred application. Many of them are using social media to sharing the knowledge and learning. Many are aware of e learning tools and they are using it regularly. Advertisements distract many e learners.

Key words: e learning tools, social media

Introduction

The future is all about cyberspace and if we don't participate in social media, we are not in a position to compete in the public and business life. As we know that after the developments in technology and, in particular, in cyberspace, the life is everything which depends on the technology and cyberspace. Those were the days that learners rely on the traditional classroom learning and textbook form of study materials. Now, it is the time for learners who learn through the social media networks as it available 24x7 with the facilities of access, collect, store and retrieve facts and information which are the base for learning and enrich the knowledge, effectiveness and efficiency, ability to compete in the virtual learning environment and to get things done in their personal, public and business life.

E Learning is learning through electronic technologies to access educational curriculum outside the traditional classroom. Learning that is delivered online, via the internet which can be learnt through Distance Education, computerized electronic learning, online learning, internet learning etc. eLearning is particularly delivered using internet even to remote places other than the classrooms. It is not a course delivered via a DVD or CD-ROM, video tape or over a television channel. It is also interactive where we can communicate with the teachers, professors or other students in the class. Sometimes it is delivered live, where we can "electronically" raise our hand and we could interact in real time. Sometimes lectures may be

Impact of Social Media Sites (SMS) on Post Purchase Behavior of Tourism Customers

M.Nagamalar, D.Ravindran

Abstract—Nowadays due to the development of communication technologies, the usage of internet among consumers has also increased. Also social media is the most preferred web tool by the people before making their purchase of a product or service. Marketers are using social Media Sited and networking pages to promote their services. They are attracting their potential customers by sharing their content on social media sites. This study aims to highlight the social media impact on post purchase behaviour of tourism customers .The Study explores how marital status affects post-purchase behavioural intentions in tourism sector. As a result of the data analysis it is found that married respondents have more favourable post purchase behaviour than unmarried respondents.

Keywords: Social Media Sites, Post Purchase Behaviour, Tourism

I. INTRODUCTION

Social media is the one through which people interact among each other, share the known information though virtual communities. Social media Media Sites are very useful not only for sharing the information but it can be reframed as social commerce. It plays a vital role in consumer buying patterns due the usage of smart phones and social networking app and e word of mouth has given a new paradigm shift among buyers. Many consumers are not having their purchasing power in their pockets instead in the smart phones. They don't prefer visiting shops and buying new products. They are using social media and through social feeds they are deciding their purchase online.

1.1 Reasons Why Consumers Prefer Purchase Online Through Social Media Are

- Social media makes them trendy which provides updated information
- They could easily collect the information regarding the products and services of a company
- They could compare features, price of a product in the same page
- They could join forums and provide their views for information
- They could get information regarding and promotional offers
- Finally it makes their purchase decisions easy.

Post-purchase behaviour means how a consumer think, feel, react after making a purchase of a product or a service.

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Post-purchase behaviour reveals the attitude and satisfaction of a consumer towards the product. It shows whether or not the purchase motives have been achieved. The consumers will also assess their purchase and that will also reflect in further purchases of a particular brand. Post purchase behaviour talk about repeat purchase, recommending products to others etc. Consumer's post purchasing decisions are influenced by the social media posts, reviews, images shared, advertisements, comments, etc.

Marital status is considered as one of the important demographic variable that will influence purchase decisions. Consumers with different marital status will have a strong impact while purchasing goods and services. Their need, perceived value towards a product, information searching pattern, buying patterns may vary.

II. NEED AND IMPORTANCE OF THE STUDY

Mainly marketers focus on advertising and selling the product to their end customers. Their main attention is towards target markets and getting revenue. Few companies won't give importance to customer experience. They won't bother about post purchase. This is mostly neglected. Need has risen that every company should optimize the customer satisfaction, which will increase re purchase and will transform customer as a brand ambassador. Social media Sites helps tourism operators to promote their products and services.

III. OBJECTIVES OF THE STUDY

- To study the Social Media Sites influence on Post purchase behaviour of Tourism Customers
- To analyse the influence of marital status on post purchase behaviour of tourism services through social media
- To offer suggestions to improve post purchase behaviour of Tourism customers through Social Media Sites.

IV. REVIEW OF LITERATURE

Elvis Maldonado (2016) had studied the role of social media in promoting the tourism industry in Durban, South Africa. The results revealed that social media plays a vital role in promoting tourism and has identified the active social media platforms as WhatsApp and Facebook with highest number of users. Social media can be used by the marketers to create awareness of the positive transformations, and offer more secure online holiday-purchase provisions

Complementary Tree Domination Number of Semitotal Point Graph

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Abstract— **A set $D \subseteq V$ of a graph $G=(V,E)$ is a complementary tree dominating set if the induced subgraph <V-D> is a tree. The complementary tree domination number $\gamma_{ctd}(G)$ is the minimum cardinality of a complementary tree dominating set (ctd-set) of G. The semitotal -point graph $T_2(G)$ is the graph G whose vertex set is $V(G) \cup E(G)$. Where two vertices are adjacent if and only if (i) they are adjacent vertices of G or (ii)one is a vertex and the other is an edge of G incident with it. In this paper complementary tree domination number for semitotal-point graph on some standard graphs and bounds are obtained.**

Keywords— **Dominating set, Complementary tree dominating set, Semi total point graph.**

I. INTRODUCTION

E. SampathKumar and S.B. Chikkodimath introduced the concept of Semi Total-point graph of a graph [5]. Graphs discussed in this paper are simple and undirected graphs. Complementary tree domination number of a graph was introduced by S. Muthammai ,M. Bhanumathi and P. Vidhya[3]. They defined the complementary tree dominating set, the complementary tree domination number are obtained for some standard graphs. In this paper, exact values of some standard graphs and bounds of $\gamma_{ctd}(T_2(G))$ are found.

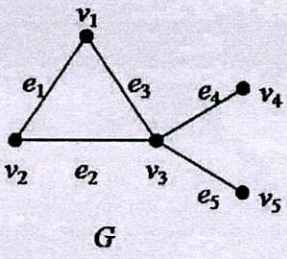
Definition 1.1 [3]

A set $D \subseteq V(G)$ is said to be complementary tree dominating set (ctd-set) if the induced subgraph $\langle V(G)-D \rangle$ is a tree. The minimum cardinality of a ctd-set is called the complementary tree domination number of G and is denoted by $\gamma_{ctd}(G)$.

Definition 1.2 [1]

The semi total -point graph $T_2(G)$ of a graph G is the graph whose vertex set is V(G)∪E(G),where two vertices are adjacent if and only if (i) they are adjacent vertices of G or (ii) one is a vertex of G and the other is an edge of G, incident with it.

Example:



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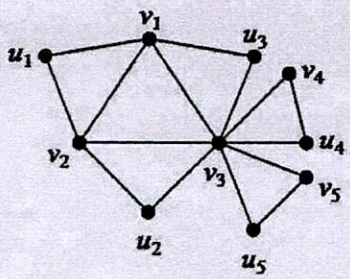

$T_2(G)$

D is a ctd-set of $T_2(G)$
D={v_2,u_3,u_4,u_5}.

FUZZY SERVQUAL MODEL FOR HEALTH CARE SERVICE QUALITY IN HOSPITALS

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ABSTRACT

It is proposed to measure the service quality of hospital implementing Lean management and assess the hospitals' service quality based on patients' expectation and satisfaction. The data was collected from 200 patient from different hospitals. The aim of the paper is to identify the gap between perception and expectation of patients towards health service in hospitals. SERVQUAL method is applied which was integrated with fuzzy method. Based on the results of this study, it was shown that the attributes of A3- hospitals have knowledge to answer patient questions, T8- hospitals will be neat in appearance and REL13- When a patient has a problem , hospital will show a sincere interest in solving it, had the greatest gap among 22 health service attributes which were identified and these results could assist the management of the hospitals in determining the policy strategy by prioritizing attributes that have a big gap for improvement in quality of services provided by them.

Keywords: ***Patient Expectation, perception, Service quality, Health care, Fuzzy model, SERVQUAL.***

1. INTRODUCTION

The importance of service quality and customer satisfaction is key element for a health sector and the study demonstrate the interest to measure the patient's response and calibre their perceptions & its expectations. Based on the data it's analysed by "SERVQUAL" model to measure the perceptions and expectations of service quality across in five dimensions namely tangibles, reliability, responsiveness, assurance and empathy. Service quality for each dimension is captured by a difference score, G= P – E, where G is the perceived quality, P is the perception of delivered service, and E is the expectation of service. In order to operationalize this model, the authors developed 22 items that were designed to capture customer's expectation and perception of a service of those dimension. So far previous research studies in SERVQUAL model have developed a set of statistical models to measure the perceptions and expectations of service quality across in five dimensions. One of the most widely used instruments to measure service quality is the SERVQUAL scale developed by Parasuraman et al. in 1985. Parasuraman et al. developed SERVQUAL 1988, to derive a service quality measure that transcends multiple measurement contexts, for measuring the gap between customer expectations and services received, which matched similar criteria used by customers evaluating service quality. Application of SERVQUAL Model is discussed by Parasuraman, et al., (1990), Rafidah, etal. (2016), (Punnakitikashem, et al., 2012. These models are more appropriate when the relationship between the response and the explanatory variables is crisp. In real life situation vagueness or uncertainty in the observations may require decision making in a fuzzy environment. Riono, Ahmadi (2017), ShewitWoldegebriel, DanielKitaw, Carlo Rafele (2015), and SushamaDhote, keswani I.P (2012). The rest of the paper is organized as follows. In section 2 Evaluate Service Quality with Fuzzy set theory. Section 3 presents the methods and findings of SERVQUAL model and results are given.

2. EMPLOYING FUZZY SET THEORY WITH SERVQUAL TO EVALUATE SERVICE QUALITY

Service industries are becoming more and more important in the worldwide economy. Improving service quality effectively has become the main issue for business managers. However, services have many characteristics that make the evaluation of quality much more difficult than commodities, like intangibility, heterogeneity, subjection, customer participation and perishability. Intangible attributes of service quality, such as safety and comfort, are difficult to measure accurately. Besides, different individuals usually have a wide range of

FUZZY SERVQUAL MODEL FOR HEALTH CARE SERVICE QUALITY IN HOSPITALS

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Density functional studies and spectroscopic analysis (FT-IR, FT-Raman, UV–visible, and NMR)with molecular docking approach on an antifibrotic drug Pirfenidone

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Abstract

This present research work contributes to the findings of geometrical structure, vibrational frequencies and respective assignments with the compatible electronic, optical, nonlinear and thermodynamic properties of an antifibrotic drug. The theoretical characterization using density functional theory with the higher-order basis set 6–311++G(d,p)was treated with FT-IR, FT-Raman,UV–visible, and NMR spectroscopic characterizations. Theoretical and experimental observations of all the spectroscopic characterizations such as Infrared, Raman,UV–visible and NMR were compared. The targeted drug is a very good antifibrotic in nature, theoretically proved using the molecular docking approach. Time-dependent density functional theory emphasized the comparison of the highest occupied and the lowest unoccupied molecular orbital energy gap with the ultraviolet absorption spectra. Furthermore, a small scaling factor eradicates the solid to gas phase switch in the vibrational spectra of Infrared and Raman characterization. The target drug 5-methyl-1-phenyl-1,2-dihydropyridine-2-onewidely called Pirfenidone(generic name) is docked with two different receptors such as antifibrotic and antiinflammatory origins. All the results of the titled antifibrotic drug were discussed with the proper literature survey.

Graphical abstract

In this present research work, an amalgamation of experimental and theoretical findings of the molecular structure, spectroscopic characterizations (FT-IR, FT-Raman, UV–vis and NMR), non-linear optics and

Preliminary Phytochemical Screening of *Thespesia Populnea* Leaf Extracts and Evaluation of Its Antibacterial Activity

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Abstract

Thespesia populnea is a giant tree fits to the family of Malvaceae, originate in steamy counties and sea side woodlands of India. Numerous portions of it were originate to retain treasured therapeutic possessions. The shade dried leaf powder of Thespesia populnea was subjected to successive extraction using water and ethanol as solvents. Introductory phytochemical investigation of Thespesia populnea revealed the existence of saponin, tannin, alkaloid in all extracts. Terpenes, flavonoid, phenol and quinone present in ethanol and aqueous extracts. The ethanolic extract of Thespesia populnea were further exposed to antibacterial activity. The test drug of Thespesia populnea ethanolic extract shows remarkable antibacterial activity in all pathogens than the standard drug.

Keywords: Alkaloids, Antibacterial activity, Flavanoids, *Thespesia populnea*, Secondary metabolites

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Single-pot solid-state synthesis of ZnO/chitosan composite for photocatalytic and antitumour applications

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Received: 10 June 2019 / Accepted: 4 November 2019

Abstract
In recent years, hybrids prepared by coupling metal oxides with polymers have attracted great interest from researchers across multiple fields. Chitosan, a natural eco-friendly biopolymer, derived from the shells of crustaceans was chosen in the current work to synthesize ZnO/chitosan composite. A simple and effective solid-state method was employed for the synthesis of the composite. The successful formation of the composite was revealed from TGA, FT-IR, XRD and EDAX analyses. XPS and FT-IR analyses ascertained that ZnO and chitosan were linked through hydrogen bonding and coordinate bonding-type interactions. Since the composite displayed absorption edge in the visible light region, photocatalytic activity of the composite was evaluated by the degradation of crystal violet dye under visible light irradiation. The successful anticancer activity of the synthesized ZnO/chitosan composite was confirmed through its MTT assay against MCF-7 cells. ZnO/chitosan composite exhibited excellent antitumour activity towards the breast cancer cells compared to control ZnO. This work may open up a new, environmentally benign route to synthesize metal oxide-based composites that can be employed for biological and biomedical applications.

1 Introduction

Semiconductor metal oxides are materials of interest in various fields due to their highly tunable and versatile properties. The chemical properties of the transition metal oxides are influenced by the surface energies which in turn depend on the structure of metal oxides. The unique nature of the outer d electrons resulting in ionic, covalent or metallic interactions between the metal atom and oxygen is responsible for the distinct properties of these oxides. The optical and electrical characteristics of transition metal oxides are influenced by the crystal defects in them. Semiconductor metal oxides have profound use in the field of electronics and environmental remediation, since they form charge carriers on stimulation with required amount of energy. Some of the transition metal oxides that have been explored as semiconductors are Fe_2O_3, MoS_2, $SrTiO_3$, TiO_2, ZnO, V_2O_5, ZrO_2, WO_3, SnO_2 [1, 2]. Among the numerous semiconductor metal oxides available, TiO_2 and ZnO have been proposed as efficient candidates in the field of environmental remediation and water purification [3].

ZnO is a multifunctional material with diverse features and finds application in various fields like rubber, pharmaceutical, food, cosmetics and electronics owing to its desirable physical, chemical and optical properties. Hardness, rigidity and piezoelectric constant of ZnO make it a reliable additive in ceramics. Its low toxicity, biocompatibility, antibacterial characteristics and biodegradability have made it to be the candidate of interest and high value in the fields of drug delivery and biological materials. ZnO possesses good piezoelectric and pyroelectric properties which make it attractive to be used as a sensor, photocatalyst and energy generator. Since it possesses high thermal and mechanical stability, it also finds applications in laser technology, optoelectronics and electronics [4–6].

Formulation of metal oxide-based composites has been established as one of the effective routes to improve the efficiency of semiconductor oxide photocatalytic systems. Hybrid composites synthesized by combining polymers and metal oxides have profound advantage, as they provide synergistic effect in improving the light absorption. The

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Investigation on antibacterial and photocatalytic degradation of Rhodamine-B dye under visible light irradiation by titanium molybdate nanoparticles prepared via microwave method

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Abstract

Titanium molybdate (TM) nanoparticles were synthesized by two different methods using titanium tetrachloride and ammonium molybdate as starting precursor. The obtained nanoparticles were examined by various analytical techniques such as powder XRD, FESEM, HRTEM, UV–visible spectroscopy, PL spectroscopy and FTIR analysis. The tetrahedral phase and crystallite size were determined using powder XRD. The morphology of the samples was examined by FESEM and HRTEM techniques. Titanium molybdate prepared via precipitation method (TM1) shows irregular and unclear morphology whereas titanium molybdate prepared thru microwave method (TM2) exhibits pores and sphere like structure. The elemental composition (EDX) confirms the presence of elements in the order of O>Ti>Mo for TM1 and Mo>Ti>O for TM2 samples. The functional groups were determined using FTIR analysis it exhibits lower frequencies for TM2 than TM1. UV–vis spectra show the optical energy gap of 3.0 eV and 2.78 eV for TM1 and TM2 samples respectively. The antibacterial effect of titanium molybdate (TM2) sample prepared via microwave method was studied in *Staphylococcus aurous, Escherichia coli and Pseudomonuas aeruginosa.* The obtained results states *Staphylococcus aurous* has noteworthy antibacterial activity than other two bacterial species. The photocatalytic activity of Rhodamine-B (RhB) under visible light irradiation expounded about 96% of dye was degraded after 150 min for titanium molybdate (TM2).

Introduction

The major issues in environmental pollution is triggered by increase in global industrialization. The industrial sectors consume an enormous quantity of water for manufacturing and they discharge vast of organic pollutants without proper treatment, which causes severe health problems to human and other

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RESEARCH ARTICLE OPEN ACCESS

Characterization of Struvite Produced by an Algal Associated Agarolytic Bacterium *Exiguobacterium aestuarii* St. SR 101

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Abstract

Biomineralization phenomenon of bacteria proved to have various biotechnological and environmental applications. Production of magnesium ammonium phosphate (struvite) crystals by the agarolytic bacterium *Exiguobacterium aestuarii* St. SR 101 isolated from red seaweed, *Gracilaria corticata* was reported for the first time in the present study. Struvite crystallization occurred in the agar culture medium in the presence of the bacterium. Crystal nucleation and growth occurred apparently as a consequence of the localized ion supersaturation, produced by the microbial metabolites and also by the microbial supply of heterogeneous nuclei resulted in crystallization. The crystals were visible between 10 to 15 days after inoculation. The crystal structure of the struvite characterized by optical microscopy, IR spectroscopy, thermogravimetry, powder X-ray diffractometry, and single crystal X-ray diffractometry. The orthorhombic crystal is with the space group $Pmn2_1$ and unit-cell parameters a = 6.9447 Å, b =6.1329 Å, c = 11.2026Å. *Exiguobacterium aestuarii* St. SR 101 showed to have the capacity of producing struvite based fertilizer by bioremediation of industrial phosphate wastes.

Keywords: *Exiguobacterium aestuarii*; biomineralization; struvite; agarolytic; X-ray diffractometry.

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A Comparative Study on Caching Strategies in Content Centric Networking for Mobile Networks

Publisher: IEEE

C. Victoria Priscilla ; A.R. Charulatha All Authors

Abstract: Mobile communication has become an integral part of everybody's life. The global internet traffic is increasing at an alarming rate because of the demand for internet con... **View more**

Metadata

Abstract:

Mobile communication has become an integral part of everybody's life. The global internet traffic is increasing at an alarming rate because of the demand for internet content like web pages, audio files, and videos. The success of the internet is because of the success of various internet applications which is also the reason for growing internet traffic. This has led to redefining the IP stack by allowing the content-centric networking, CCN. CCN is dependent on the caching contents in-network and off-network nodes. There have been various strategies on how to cache the contents. The Quality of Service offered by the providers improves with a proper selection of caching strategy, which helps in increasing the network efficiency by lowering the bandwidth of the network. The selection of an appropriate caching strategy also proves to improve the user's quality of experience. This paper discusses the need, architecture of CCN, the various caching strategies and a comparative study on LCE, LCD, ProbCache and MAGIC caching strategies by running in a common simulation environment.

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Multivariate Classification of Drugs using Parametric and Nonparametric Machine Learning Models

N. Priya, G. Shobana

Abstract*: In pharmaceutical research, traditional drug discovery process is time consuming and expensive, where several compounds are experimentally tested for their biological activities. Series of lab experiments are conducted to analyze newly synthesized drug's pharmaceutical activities and its biological effects on human. With every new drug discovery, the required clinical properties can be determined using machine learning models and this greatly reduces the experimental cost. This paper explores parametric and non-parametric machine learning models to classify administration properties of drugs and its toxicity. The multinomial classification of drugs was based on their physicochemical and ADMET properties. Balanced data samples were drawn from chEMBL and was pre-processed. Features were reduced using Recursive Feature Elimination and the attributes were ranked based on their importance to reduce highly correlated attributes. The performance of parametric and non-parametric machine learning models was analyzed on cheminformatic data that includes physiochemical, biological and pharmaceutical properties of the drug molecules. Selecting the potent drug candidate along with its administration properties greatly reduces wet lab experimental time and cost. Multiclass classification can be determined efficiently using non-parametric machine learning model. Optimal feature engineering, tuning hyperparameters and adopting hybrid algorithms would result in more accurate predictions in future for cheminformatics data.

***Keywords*: Parametric, machine learning, drug discovery, cheminformatics.**

I. INTRODUCTION

In preclinical development, the toxicity level of drug plays a very crucial part. If the toxicity of the drug is negligible, then further research for its bioactivity is performed. Several research papers have been published based on toxicity prediction using machine learning models. Very huge data set of drugs are taken with variant features and the prediction (target) is generally bivariate (class zero-Non-toxic, class one- Toxic). Apart from toxicity, we consider other properties of a drug like oral, parenteral, topical, OP (oral and parenteral) and PT (parenteral and topical). Overfitting problems are frequently observed when smaller data samples are used. This issue can be prevented by using a huge volume of diverse chemical drug compounds [1].

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The data set is acquired from chEMBL open repository. It a database that stores information of drug-like compounds. Calculated properties about several drugs are available in this database. The features taken for study includes several physicochemical and drug-like properties of the drug. The dataset has 300 balanced and comprehensive samples. 21 features have been considered for the study. The features were ranked using RFE (Recursive Feature Elimination) and feature importance was determined. We employ both parametric and non-parametric machine learning models for prediction. Some of the parametric machine learning models are Logistic regression, LDA (Linear Discriminant Analysis), perceptron, simple neural network, Naïve Bayes etc. Examples for non-parametric models are k-nearest neighbor, Decision Tree - CART (Classification and Regression Trees), SVM (Support Vector Machine) etc. The confusion matrix is generated for the both the parametric and non-parametric machine learning models. Model evaluation metrices like Precision, Recall and F1-Score are computed and analyzed.

II. RELATED WORK

Lei et al have evaluated ADMET properties in drug discovery. Using relevant vector machine and consensus modeling, they have predicted oral acute toxicity in rat. In their study, they obtained 7314 diverse chemical data set with rat oral LD_{50} values. Various machine learning algorithms were applied to the data set. When high dimensional data are trained using machine learning models, overtraining and overfitting are likely to occur. Therefore, with increase in the dimension of data, the complexity of the model, increases and this requires tuning several hyper-parameters. In order to reduce computational complexity, (RVM) Relevance vector machine method may be used. RVM employs Bayesian criteria during the learning phase, reducing irrelevant features and generates an appropriate sparse model. RVM model gave better results among other models used. Among 334 descriptors (features) that characterize physicochemical and drug-like properties, 230 descriptors were chosen for QSAR (Quantitative Structure-Activity Relationship) modeling. Dimension reduction was performed using Chi-squared statistics. The regression models were evaluated and validated using adjusted R^2 and ten-fold cross validation R^2 co-efficient. Lei et al concluded that RVM and RF (Random Forest) were best learning models [2]. Mathew.T. E proposed a logistic regression model with recursive feature elimination model for breast cancer diagnosis [3]. Christelle Reynes et al used decision tree model to analyse protein-protein interaction inhibitors. Optimized decision tree was obtained after cross validation [4].

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Effective Implementation of Pre-Processing Techniques in Machine Learning for Autism Spectrum Disorder

N. Priya, C. Radhika

Abstract: ***Autism Spectrum disorder (ASD) is a neurobiological developmental disorder is symbolize by means of the impairment of social interaction, stereotypic behaviours, and communiqué lack. Early deduction of ASD will enhance the fine of lifestyles of the affected person. The objective of the paper is to focus on the application of various Machine Learning strategies applied for the autism dataset for diagnosing ASD. In this study, the effective pre-processing techniques One-hot encoding, Splitting and Scaling are used to standardize the dataset and the Principal Component Analysis (PCA) evaluator method is applied for the best feature selection. This technique is investigated with various Machine learning techniques like Random Forest, SVM, Logistic Regression, KNN, Naive Bayes. Comparatively, the effective Pre-Processing technique with Random Forest model shows the better accuracy of 92% in diagnosing ASD. When with other metrics such as accuracy, precision, recall, F1-score, ROC, error rate.***

Keyword: ASD, Machine Learning techniques, PCA.

I. INTRODUCTION

ASD is a neuro developmental ailment that affects someone's studying skills, interplay and verbal exchange. Although the prognosis of autism may be carried out at any age however the signs and symptoms generally appear inside the first 24 months of life and develop thru time[17]. ASD youngsters are identified for their impairment in social interplay skills and deciphering the emotional facial features in other[18]. Autism Spectrum Condition (ASC) is a fixed of neuro development syndromes that affects mind functions [21]. ASD is characterized via repetitive behaviour, verbal and nonverbal communiqué, the want for sameness and irregularity in social interplay [25].

II. LITERATURE REVIEW

Machine Learning techniques play a dynamic role for diagnosing ASD in the analysis of dataset. This section, mainly focus on predicting ASD using different Machine Learning techniques. Fadi Thabtah [1] used DSM-5 tool to identify the ASD with merits and demerits. Padmapriya.S, et al.[2] proposed different pre-processing techniques like Chi-Square, Information Gain, Relevant feature selection and reduced the feature set. Relevant feature selection techniques gave more accuracy when compared to other techniques.

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Uma Rani.R et al.[3] proposed the comparison of classification algorithms with statistical models in autism dataset. Arodami Chorianopoulou et al. [5] used with different modalities like audio, text, video and with parent's action of interactions of typically developing(TD) and ASD children. The moderate accuracy occurred only due to engagement on parents behaviour.

Vaishali R. et al.[6] Used ASD data from UCI machine learning repository experimented with binary firefly feature selection wrapper and obtained a better classification reports on minimum feature subsets. Tibaduiza et al.[8] proposed a comparison study between the PCA (Principal Component Analysis) and ICA (Independent Component Analysis) were described. An significant difference between PCA and ICA were related to the quantity of components used in the technique. Kazi Shahrukh Omar et al.[9] proposed a model by merging random forest-ID3, Random forest-CART for predicting the autism traits. The evaluation done with AQ10 dataset and 250 real dataset collected from various persons. The results were compared in terms of different metrics. Sofia Visa et al.[10] created a subset of features based on criteria and yielding better accuracy using CART classification. Mofleh Al Diabat et al.[20] author described a new Ensemble Classification for Autism Screening(ECAS) to predict ASD traits and also reduces biased decisions. Paul Fergus et al.[21] proposed a 3D animation solution developed for Mobile device. It helps ASD people to understand the facial expressions and give awareness to engage real-time situations.

III. THE DATASET

The dataset entitled, "Autistic Spectrum Disorder Screening Data for Toddlers" is an open source dataset from Kaggle Repository. The dataset consists of 1054 observations of 18 features of different variable type. Dataset description is shown in Table1.

It contains categorical variables like Gender, Ethnicity, Jaundice, Family_members_with_ASD, Who is attaining test, Class/ASD Traits, as well as 10 binary variables representing the screening questions (A1 to A10), and 2 numeric variables (Age & Score).

Leukemia Drug Prediction Using Machine Learning Techniques with Feature Engineering

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Abstract--- Researchers have been working towards various strategies to produce effective anticancer drugs. Leukemia is a type of cancer disease that affects people of all ages throughout the globe and is caused by the abnormal cells produced by the bone marrow. Numerous clinical trials are conducted by the biomedical researchers to understand the biological activities, pharmaceutical properties and toxicity prediction of the newly synthesized drug, which involves huge cost and time. In this paper, various machine learning models like Support Vector Machine, Decision Tree, Artificial Neural Network, Random Forest were employed to predict the Leukemia drug among several other drugs. Furthermore, the features are engineered using Principal Component Analysis and Recursive Feature Elimination to achieve higher prediction accuracy. Artificial Neural Network machine learning model had better prediction accuracy.

Keywords--- Machine Learning, Support Vector Machine, Decision Tree, Random Forest.

I. Introduction

Leukemia is commonly called blood cancer and abnormal cells are produced by the bone marrow in huge numbers. These leukemia cells are partially developed and are known as blasts. Acute Lymphoblastic Leukemia (ALL), Acute Myeloid Leukemia (AML), Chronic Lymphocytic Leukemia (CLL) and Chronic Myeloid Leukemia (CML) are the four common types of Leukemia. There are still many other less common types of Leukemia [1]. According to WHO, in 2018 there were 9.6 million cancer deaths across the world [2]. Researchers have involved in diagnosis of leukemia types using machine learning algorithms. Image processing techniques were used to segment and analyze the images of the blood smears of leukemia patients. The images data were collected from ALL_IDB open database.

Machine learning models were used to classify the leukemia types. Several research papers have been published in the classification of Breast cancer as Malignant and Benign using Machine learning algorithms. The observations were images and were obtained from the UCI open repository. In this paper, prediction of leukemia drug, based on the machine learning models have been investigated. The drug names were drawn from NCI and KEGG databases [3].

FDA approved Leukemia drugs are shown in Fig. 1. Molecular description, physicochemical properties and drug-likeness properties were observed from the Swissadme database [4].

The Cheminformatic observations were applied to various machine learning models and the results are recorded. To increase the prediction accuracy, the concept of feature engineering is applied to the features. Using Principal Component Analysis (PCA) and Recursive Feature Elimination (RFE), the dimensions of the attributes were reduced.

Applying Feature Engineering has increased the prediction accuracy. There are several databases that hold relevant cheminformatic data about million or more compounds. Among them, a few hundreds, might have inhibitor activity against some newly originated disease. Pre-Clinal trial for several thousands of compounds for their biological activity, can be filtered to few hundreds, which is cost-effective using machine learning models.

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ARCHIVES

A Hybrid Approach on Mammograms High Density Ratio Using Data Mining Techniques for Breast Abnormalities

Dr.C. Victoria Priscilla and N.M. Sangeetha

Abstract

Diagnosing various breast diseases in the medical field is a difficult task even for medical experts and radiologist. The objective of the proposed hybrid approach is to find the breast abnormalities and its stages. In this research work, we concentrate on five important stages. The initial stage involves preprocessing using standard median filter ,the second stage involves density determination using formulation of density pixel and density ratio, the third stage involves the clustering procedure using K-means clustering , the fourth stage contains the computation of clustering and density ratio , the fifth stage rule based classification for finding the stages of abnormalities and detect the disease as well the patient's curability level using the medical treatments. Performance attributes sensitivity, specificity, accuracy, precision and recall are calculated. The result shows to 94.1% accuracy and proposed method is used the decision making of the drug, and identification of the stages of breast abnormalities which helps the radiologist for getting better accuracy rate and results.

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Application of Machine Learning Models in Drug Discovery: A Review

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ABSTRACT: Drug discovery involves identification of a target protein causing the disease and find the drug inhibitor molecule that restricts the growth of the target protein. Among several inhibitor molecules available, identification of the most appropriate one is crucial. Machine learning models can be applied to make accurate predictions when abundant data is available. In this paper, we explore various machine learning techniques that are applied to the bioinformatics and cheminformatics data to achieve accurate prediction for identifying active inhibitors of diseases in the process of drug discovery. We also investigate different model evaluation metrices. Various prediction analysis show that Support Vector Machine (SVM) and Random Forest (RF) produces best result.

Keywords: Machine learning, Drug discovery, Bioinformatics, Cheminformatics.

I. INTRODUCTION

Machine learning algorithms can be applied to various applications of bioinformatics like sequence homology analysis, drug design, predictive functions, genomics, proteomics and genome mapping. Cheminformatics extracts data from the chemical structures. In recent years, biological databases have increased profoundly. The lead features are collected and applied to the machine learning models for better inhibitor predictions. The need for accurate and efficient learning models for prediction has also increased considerably. Depending upon nature of the data set, the machine learning algorithms are applied to it. Bioinformatics-oriented approach provides an important advantage where, various biological problems such as sequence analysis, gene expression data analysis and genetic analysis, system biology and biomedical applications of the target protein are examined. In biomedical applications, biomedical texts and medical images can be manipulated for relevant data using machine learning techniques [1].

Some of the machine learning models used for prediction in bioinformatics are as follows: Decision Trees, Random Forest, Support Vector Machine (SVM), Linear Models (GLM), Neural Network(NN), M5P, Decision Stump, cubist, fobaetc [2]. The analysis of compound diversity, prediction of compound activity, molecular datamining and several numerical features are extracted to form Cheminformatic data. These are called Chemical descriptors. Chemical descriptors may vary from one dimensional (1D) to four dimensional (4D). Chemical fingerprints are vectors with high dimension. These are generally used in analysis of chemometric and virtual screening applications based on similarity. Chemical descriptors values are the elements obtained from these processes. Chemical similarity search is a fundamental technique for ligand-based drug discovery. Its objective is to identify and return data-based compounds with structures and bioactivities similar to query compounds [3].

Some of the supervised machine learning methods are: Multiple regression analysis, K nearest neighbor, Naïve Bayes, Random forest, Neural network and deep learning, Support vector machine [3]. Some machine-learning algorithms used in cheminformatics are: Ant Colony, Relevance Vector Machine(RVM), Parzen-Rosenblatt Window, Fuzzy Logic, Rough Sets, Support Vector Inductive Logic Programming(SVILP),Winnow, Decision Tree, Linear Discriminant Analysis(LDA), k-Score, Projection to Latent Structures(PLS) etc. [4].

II. MACHINE LEARNING IN DRUG DISCOVERY PROCESS

Molecular docking methods explore the ligand conformations adopted within the binding sites of macromolecular targets [5]. In computational docking, a large number of binding poses are evaluated and ranked using a scoring function. The scoring function is a mathematical predictive model that produces a score that represents the binding free energy and hence the stability of the resulting complex molecule. The key to computer-aided drug design is hence the design of an efficient, accurate and highly scoring function using machine learning technique [6]. Maciej Wojcikowski *et al* investigated the structure -based Virtual Screening that aims at identifying compounds with previously unknown affinity for a target from its three-dimensional (3D) structure. They used three machine learning scoring functions for building models [7].

Bioinformatics addresses genes, proteins and other larger chemical compounds, whereas cheminformatics has mainly dealt with small molecules (Fig. 1). Cheminformatics and bioinformatics complement each other for biomolecular processes, like structure and function of proteins, the binding of a ligand to its binding site, the conversion of a substrate within its enzyme receptor and the catalysis of a biochemical reaction by an enzyme [8].

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A Survey on Predicting Autism Spectrum Disorder using Machine Learning Techniques

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ABSTRACT: Autism Spectrum Disorder (ASD) is a developmental disorder of an individual's behaviors, communication, learning skills, and social interaction. The nature of ASD varies among individuals and brain-based or neurobiological disorder of development. Recent studies show that around one in sixty-eight people is diagnosed with ASD and overall 18 million people suffering from autism in India. Objective of the study is to identify ASD in the early stage to improve brain development and also provide the awareness of ASD to the parents and the caretaker. Nowadays Machine Learning techniques play a vital role in predicting Autism Spectrum Disorder. It is an application of Artificial Intelligence (AI) that focuses on the development of computer programs that can access data and use it learn for themselves. Several Machine Learning techniques are proposed by many researchers for diagnosing the various types of ASD in a fast and accurate manner. This paper proposes to classify and review the various Machine Learning techniques and discuss the features of ASD and performance evaluation using different metrics and identify the promising direction for future research and this review shows the Random forest algorithm gives better results compare with other algorithms.

Keywords: Autism Spectrum Disorder, Data Mining, Machine Learning.

I. INTRODUCTION

A. Autism Spectrum Disorder

Autism is a chronic disability that affects individuals who fail to make normal relations with other individuals. Nowadays, ASD is predicated at eighteen months, based on the kid's social interaction but many kids are detected only at their three years or the first step to the schools. The different types of Autistic disabilities are Autistic Disorder, Asperger's Disorder, Childhood Disintegrative Disorder, Rett's Disorder and Pervasive Developmental Disorder-Not Otherwise Specified [19,22].

Autistic Disorder: This type of individuals delay with social interaction, stereotyped patterns or behaviors interests and restricted repetitive. This disorder affects the individual's motor skills, lack of eye contact and may have a fixation on specific parts of an object that are viewed by the individuals.

Asperger's syndrome: Asperger's syndrome is characterized as a unique ASD because they have normal communication/language development, though they have difficulty in understanding normal conventional social rules or lack of understanding in other's behaviors.

Childhood Disintegrative Disorder (CDD): CDD is also called as regressive autism. It is characterized by 2 to 4 years of normal development followed by the onset of autism symptoms like severe and sudden reversals in language, motor skills, social interaction, and behaviors.

Rett's Disorder: Rett's Disorder is a neurological disorder that affects only girl children.

The children with Rett's syndrome haveslow growth when they are between 12 to 18 months and their head is usually small in size. This disorder is named MICROCEPHALY by the doctors and slow growth shows that the brain doesn't develop properly. Depending on the child Rett's syndrome various and some sequence of symptoms are breathing, sleep, problems, teeth grinding, stereotyped patterns and slowly they lose their abilities in each level of their age.

Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS): This type of Child have impairments in social communication such as interactions or they often have repetitive behaviors like Hand-flapping, rocking, twirling or jumping. They may have a lack of eye contact, trouble in controlling emotions and high-pitched.

B. Characteristic Features of ASD

Every ASD child has unique abilities and the most common characteristics of ASD [9] are Impaired Social Interaction, Behaviour Patterns, Cognitive Problems, and Sensory Aspects are shown in Fig. 1.

C. Machine Learning Techniques

Machine Learning techniques which embodies the principle of automatic correlations and learning from the new algorithm. The present study focused on the application of various Machine learning techniques over the Autism Spectrum Disorder diagnosis. Fig. 2. Presents a list of Machine Learning techniques used in current trends [1,2 5].

slowly they lose their abilities in each level of their age.
Pervasive Developmental Disorder-Not Otherwise

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Consumer Perception towards Online Grocery Shopping in Chennai

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Abstract:
Online grocery shopping is increasing as new players have entered the market. Consumers find a product of interest by visiting the website of the retailer directly or by searching among alternative vendors using a shopping search engine that displays the product's availability and pricing at different e-retailers. It is also known by different names such as E-shopping, e-web-store, e-store, online store, or virtual store. Most of the people like to choose an e-shopping website based on their home country as it ensures product safety and takes little time to deliver the product. This article explains that the organizations are carried out their sales campaign program by using networking sites. The scope of study was limited to Chennai. The sample study was confined to 100.Statistical tools such as Percentage Analysis to scrutinize the demographic profile of the respondenst and Multi-variate analysis (Factor Analysis) to reduce the number of variables into few factors.

Keywords: *E-Commerce - Online groceryshops – Transparency - Offers - User friendly.*

I. INTRODUCTION

Online shopping has crossed the nascent stage and reached a level mellowness. It is now an essential part of every Indian house hold. The online grocery shopping is a part of electronic commerce which sells groceries through E platform. Young adults are the primary targets of online grocery shopping. Urban Indians are amongst the top ten regular consumers of online grocery shopping across the bubble. Selling perishable goods online is far more difficult than selling non-perishables. This study focuses on the psyche behind consumers and the factors influencing in online grocery shopping.

II. OBJECTIVES OF THE STUDY

To study about the socio-economic profile of the consumers buying grocery online.

To examine the factors that influences the consumers towards online grocery shopping.

To provide suggestions based on the findings of the study.

III. RESEARCH METHODOLOGY

Research is an academic activity and as such the terms should be used in technical sense.

3.1 Research Design

'Empirical Research Design'.

3.2 Sample Design

The respondents have been selected on the basis of convenient sampling.

3.3 Data Collection

Both Primary & Secondary Data were Used

In this research 100 questionnaires are distributed among Consumers and all are responded. These participants vary on the basis of their family

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Employee's' Perception on E-Banking Services in Banks in Chennai

V. Jayanthi, S. Subbulakshmi, T. Devi Kamatchi

*Abstract—Indian banking industry has been pushed to a crucial transformation phase towards cashless economy. E-banking eliminates corruption and illegal transactions. The bank employees have to cope with and adopt the changes in the technology from time to time. The expectations of customers keep changing and increase with the technological developments. E-services are concerned with security and safety though provided with 24*7 services. This paper attempts to hit upon the perceptions of bank employees.*

Key words: Banking Sector, Information Technology, E-services, Bank employees

I. INTRODUCTION

In the present world of technology both mode of production but also the services marketing are affected. The acceptance of IT enabled services in the service sector is mandatory. Especially in banking sector, the employees' perception and reception of technology plays a vital role in the accomplishment of any bank. This study gains significance as there are no many studies pertaining to the employees. The problems and insight of bank employees affects the service rendered by them.

II. REVIEW OF LITERATURE

✔R. K. Uppal in his paper on E- banking: Problems and Prospects: An Empirical study in Punjab, Information management and Business Review (2011), studied the problems and prospects of E-banks in India. The findings of the study showed that 50% of Indian banking customers have used E - channels. Online banking was not familiar among old aged and middle aged people as much as youngsters. The study concluded with a suggestion to public sector banks to formulate innovative strategies to compete with the foreign and private sector banks.

✔R.K.Uppal in his article "Internet Banking problems and future on look" examined the perceptions of bankers on Internet based E-banking services related with important issues like collaborative culture, training & development and knowledge management. E-banks have helped to do routine work more efficiently and increased interest in work. Analysing the problems faced by the employees while dealing with customers electronically, illiteracy and increased expectations of customers and lack of knowledge came out to be the main problems. The researcher has given certain policy, recommendations to make employees more efficient like effective on the job training, establishment of separate human resources departments and friendly work environment.

III. IMPORTANCE OF THE STUDY

Now days, most of the banks are providing diversified facilities to its customers. Some of the facilities are credit card, debit card, ATM card, E-Banking, Mobile Banking, Loan facilities, etc. Many of these facilities are really useful for the users and helping them to save time. This study is confined to measure the bank employee's perception and their level of satisfaction on their performance (i.e. services and products provided) of public banks, private banks & foreign banks in Chennai City.

IV. OBJECTIVES OF THE STUDY

- To study the perception of bank employees of all the three types of bank.
- To understand the factors influencing the service quality dimension of the banks
- To study the attitude and behaviour of employees relating to e- services
- To offer suggestions for improvement of quality of services in banks.

Hyphotheses

H0: There is no significant difference between various bank group employees in the perception of E-banking services.

H1: There is significant difference between various bank group employees in the perception of E-banking services.

V. LIMITATIONS OF THE STUDY

1) The study is made in Chennai city only.
2) Only 338 respondents have been taken for the study.
3) The selected banks have alone been considered for the study.
4) Time and cost are the factors limiting the study

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Perception About Cyber Crimes Among Students in Arts and Science Colleges in Chennai

S. Subbulakshmi, V. Jayanthi, T. Devi Kamatchi

Abstract--- The internet helps us in providing information as well as storing all our data, with the rapid increase in our modern technology; it has become very difficult to keep our private information safe. The Internet has also bred a new kind of crime CYBER-CRIME. The other name for Cyber crimes are "Internet Games" and "yahoo yahoo".. Common internet users are unaware of Cyber crimes like hacking, identity theft, Credit/debit card frauds, cyber terrorism and many more crimes. This paper attempts to draw out the awareness level of students about cyber crime.

Keywords: Cyber Crime – types of cyber crimes – problems faced by the victim - awareness

I. INTRODUCTION

Cyber crime is a crime in which a computer is the object or a tool to commit crime or an offense. Cyber criminals may use computer technology to access personal information, business trade secrets or use the internet for exploitative or malicious purposes.. Cyber criminals like **Crackers, Hackers, and Pranksters, Career criminals, Cyber terrorists & Salami attackers** use platforms such as social networking sites, emails, chat rooms, pirated software, websites, etc., to attack victims. Common types of cyber crime include **online bank information theft, identity theft, online predatory crimes cyber terrorism and unauthorized computer access.**

At present, Out of the top 10 most targeted countries by cyber attackers, **India ranks fourth**. Cyber-attacks are an illegal activity and are continuously increasing in India for financial loot.The majority of cyber-crimes are centred on forgery, fraud and phishing. **India is the third most targeted country for phishing attack after the US and the UK.**

Table No.1
Types of Cyber Criminals

Type	Intention
Crackers	Aim to cause loss with anti social motive or for fun. eg. computer virus creator and distributor
Hackers	Explore other's computer out of curiosity and gain reputation among other hackers
Pranksters	Carry out tricks on others but do not propose any long lasting harm.
Career criminals	They act in gang such as mafia and engage in crime in part time
Cyber terrorists	Hacking Government website and a group internet users flooding into a website to crash it.
Cyber bulls	Harassment through internet such as posting fake profile, sending cruel email, etc.
Salami attackers	Commission of financial crimes. Eg. Bank employee inserts a programme in bank server which deducts a very a meagre amount from each account which goes unnoticed.

Table No.2
Types of Cyber Crimes

Type	Intention
Data crime	Data collection, data modification and data theft.
Network crime	Network Interference and network sabotage
Access crime	Unauthorised access and virus dissemination
Relative Crime	Abetting cyber crime, computer related crime and content related crime.

II. SCOPE OF THE STUDY

- To discover the awareness level as regards to cybercrime among students in Colleges in Chennai.
- To find the relationship between the misuse of internet and cybercrime.

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INTERPERSONAL SKILLS OF WORKING WOMEN IN CHENNAI CITY - AN EMPIRICAL STUDY

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ABSTRACT

"The most important single ingredient in the formula of success is, knowing how to get along with people." ~ Theodore Roosevelt

This article explains that Women, as knowledge facilitators are essentially expected to build healthy relationships in the work front for achieving professional success. The ability to get along with others is immensely helpful to enhance their career and to enrich the existing potentials providing sustainable growth in future. Working Women has to understand their multi-dimensional roles and its functions like persuading, influencing, teaching, guiding, coordinating, instructing and discussing among the members of the organization to change their interpersonal behavioral styles according to the communicative situations. Hence, the present study attempts to know about the level of interpersonal skills of working women located in Chennai City The sample of study was confined to 120 working women. Statistical tools such as Percentage Analysis, One-Sample Kolmogorov-Smirnov Test, Friedman Test, Kendall's W Rank Test, Factor Analysis and Cluster Analysis have been used for the study to know how to use Interpersonal skills as the key to better career development

Keywords - Inter Personal Skills - Effective Communication - Awareness - Effectiveness and Improvement

INTRODUCTION:

Interpersonal skill is the study of one's own perception, knowledge, attitude & motivation and how these affect one's behavior to the self & with others. These skills are used by a person to properly interact with others. These skills are the **"Master Keys"** to success of any profession. To establish and maintain a strong relationship in communicative situation, women need to take care of reciprocation, gestures & postures, enthusiasm in interaction, self-presentation, the tone of voice in their conversations and also certain personal qualities like, warmth, empathy, genuineness, unconditional regard, non-defensiveness, cheerfulness, etc are identified as prerequisite to women.

SCOPE OF THE STUDY:

- The study aims to understand the relationship between interpersonal behavior and its effect on working women.
- The geographical scope of the study is restricted on different areas of Chennai.
- The scope of the study is restricted only to working women.
- All the analysis and suggestions are based on the analysis of both primary and secondary data.
- The study highlights the features, importance and other factors of interpersonal behavior.

OBJECTIVES OF THE STUDY:

- The main purpose of the study is to identify the interpersonal skill of working women.
- To analyze the relationship between the interpersonal skill of working women and its effect on the work environment.
- To identify the psychological factors that influence the interpersonal effectiveness of working women.
- To offer valuable suggestions to improve the skills which improves the relationship with others.

RESEARCH METHODOLOGY:

RESEARCH DESIGN Empirical Study.

SAMPLE DESIGN: The sampling design consists of target population, sampling location, sampling elements, sampling technique and sampling size.

SAMPLE SIZE: For the study, sample sizes of **120 respondents** were selected in **Chennai City.**

SAMPLING METHOD: **Simple random sampling** was used, based on the willingness and availability of the respondents.

METHOD OF DATA COLLECTION: Both primary and secondary data were collected.

PRIMARY DATA:¬ Primary data is that data which is collected for the first time. It is original in nature in the shape of raw material. For the purpose of collection of primary data, a **well-structured questionnaire** was filled by the respondents. The questionnaire comprises of **close ended as well as open ended questions.**

Impact and Uses of Whatsapp Among College Students

K. Meenakshi, T. Anitha, K. Lakshmi

ABSTRACT-; ***Social networking means sharing information through network. It can be personal or official. Social networking sites are the boon to the college students which enhances the communication and connect with many people around the world. It helps the students to have contact with their own old friends who are far away from them and can also build new friends by forming a group. WhatsApp had become an important part in everybody' life like children, adults, teenagers and senior citizens too due to various features of the WhatsApp attracted the users. WhatsApp is free to download and was introduced to interact with the people easily. It has become a part and parcel of the life. The present study is an attempt to study the impact and the uses of WhatsApp with reference to the students of SDNB Vaishnav College for Women Chrompet, Chennai. This exploratory study has been conducted upon 230 respondents with a structured questionnaire. The data was analysed used SPSS packages. The study concludes that students should give importance to their studies instead of giving importance to the WhatsApp. Students should try to restrict the usage of WhatsApp in order to avoid health problems and see to it they are fit.***

Keywords: Social networking, WhatsApp.

I. INTRODUCTION

WhatsApp started in the year 2009, with the tag line "Simple, Personal, Real time messaging". It is a mobile messaging app which allows the users to exchange messages without paying for SMS. It is a text messaging alternative which is used with the help of net connection through data plan or Wi-Fi connection. User can send unlimited number of message and receive message without any restrictions. They can also form groups with their family, friends, co workers etc. They can closely connect with the people in abroad. Once we download the app all our contact list members will be a members in WhatsApp. You can also block the contact number which you don't wish to receive any message. If you don't wish to be a group you can come out of that group through exist group. Apart from texting we can also send photos, videos, call through video and voice call etc.

II. IMPORTANCE OF WHATSAPP

1. Message : With the internet connection one can send or receive messages from all over the world without any SMS cost
2. Communication: It has voice calls and video call features. We can even communicate with our friends who are outside the country. We can also have face to face interaction with the help of video call.
3. Documents sharing: it enables us to share our photos, videos instantly. Even we can send documents in text, PDF, slide shows etc. We can send documents upto 100 MB
4. Chatting: We can keep in touch with our old friends, family members, co workers etc. We can form a group a maximum of 256 people in one group.

Positive Impacts of WhatsApp

- ❖ It is an effective tool for education.
- ❖ It creates awareness and information about the happening around the world.
- ❖ Spreads information to many people at a time by sending message in a group.
- ❖ It helps us to communicate and chat with people in abroad.
- ❖ It helps us to connect with the friends, relatives and helps to make new friends.

Negative Impacts of WhatsApp

- ❖ Students are becoming victims of cyber bullying.
- ❖ Hacking of personal contacts.
- ❖ Students get addiction to WhatsApp and they fail to concentrate on their studies.
- ❖ More usage of WhatsApp affect the physical and mental health of the students,
- ❖ Fail to communicate directly. Face to face interaction has been reduced due to WhatApp.

III. REVIEW OF LITERATURE

1. Levent Cetinkaya(2017) The purpose of the study was to explore the effects of WhatsApp use for education and determined the opinions of students towards the process. The analysis indicated that both learning environments have different effects on the success of students and that supporting the traditional environment by using WhatsApp are more effective for the increase of success. For the qualitative aspect of the study, content analysis techniques were employed to analyze the data which were collected by open-ended question forms. The analysis showed that students developed positive opinions towards the use of

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7students' Awareness and Perception About Genetically Modified Food

D. Lalitha, J.Priya, A.V. Jisha Kumari

ABSTRACT-; Genetic engineering and Biotechnology are the promising discipline of study in the global market. Genetic alterations are carried in indigenous species with increased sophisticated strategies and techniques to yield hybrid varieties. In Food biotechnology, Genetically Modified Foods have become new, revolutionary and emerging concepts to fulfil the food crisis encountered by developing countries such as India. Genetically Modified foods are produced from the native species by genetically modifying the genes and the modifications are created in accordance to the requirement of the end users. Different indigenous ancient species have been merged to produce new hybrid varieties that are healthy and offers many benefits. Many GM food products are accessible in the markets like grain hemp, honey, tomato, sweet potato, sweet corn, meat, essential oils etc. Developed countries possess a wide understanding about GM foods, its labelling and traceability. However in Developing countries like India, the individuals are unaware about GM foods and they ingest the food without knowing that it is genetically altered. Since awareness about GM foods are less amongst the population, Government need to take necessary measures to analyse about impacts caused by GM foods on human population and implement legislations in order to label the GM food items. As students are definitely the asset and the back bone in developing country they must be conscious of what they consume. The current study is in order to know about students' awareness on genetically modified food products and their perception towards GM foods. The Sample involves 163 college students of arts and science in and around Chennai metropolis.

Key words: Genetically modified foods, Biotechnology, Genetic Engineering, Hybrid.

I. INTRODUCTION

Genetically modified foods are varieties which are attained by modifying the genetic characteristics in native species by using latest molecular techniques. The hybrid varieties which are obtained may possess enhanced characteristics such as resistance to pesticides, insecticides, disease and drought resistance, high nutritional content and yield. Genetically customized foods are introduced in the market in early 1990's. The genetic modifications are carried out either interspecifically or intraspecifically. GM food items has gained its significance in developed countries and yet to gain its importance in Developing countries. Knowingly or unknowingly, Indian population are consuming GM food like sweet potato, sweet corn, tomato, soybean, meat, oil, cotton, grain hemp etc . Genetically Modified Cotton is produced by India on a mass basis.

In Developing countries like India presently there is an enormous increase in population, and to provide food towards the growing population we adopt alternate technology. Genetically Modified Foods have turned into a promising solution to satisfy the food crisis. India has developed modern technological methods to improve GM food production and have gained importance in global food marketing from the year 2002.Typically the marketers have to seek out for permission and approval from the government to grow and enhance marketing of GM products. They ought to get approval for labeling and to export the products to international food markets. Genetic Engineering Authorization Committee (GEAC) has to approve that the GM food products are safe for the human consumption. Many online marketers fail to get endorsement from the concerned expert that will lead to negative influence on the health of the consumer.In Developed countries labeling has been made obligatory for selling the GM products where as in India labeling of GM foods are not carried out in an effective way. It need to be strictly made mandatory and stringent legislations need to be implemented. The key advantages of genetically altered foods include reduction in usage of manures and chemical products, boost in the yield, very long time of storage, production of new varieties, Elimination of intolerance and easily affordable.

II. REVIEW OF LITERATURE

Kyrre Rickertsen Norwegian, et al., (2017):- Consumer resistance against GM crops is still substantial in the United States and Europe. We conducted an internet survey in the United States and Norway with more than 1,000 respondents in each country to estimate consumers' willingness to pay (WTP) for GM soybean oil, farmed salmon fed with GM soy and GM salmon. The differences in WTP for the conventional as compared with the GM alternatives are relatively small.

Mürsel Tas et al., (2015):-The results of the survey showed that consumers generally know what genetically modified organisms (GMOs) are, but they do not have enough information about the genetic modification process. The main concerns of consumers about GMFs are their carcinogenic effects to human. In addition, corn was found to be the most concerned GMF. The usage of GMOs in health sector and in preventing environmental pollution

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The Customer Expectation and Satisfaction on Online Food Order From Restaurant in Chennai

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Abstract-: ***Online service has evolved from being cyber world geek buzz to enormous platform for all the professionals that hunt for greater credit and recognition at a very inexpensive price. In today's fast paced world we are giving more importance and advantage of this feature of online service that cannot be denied. In this changing world and life style of the customer, they are more exposed to set some benefits for selecting a restaurant for their excellent dining experience. The aim of this study is to analyzing the customer expectation and satisfaction on online food order from restaurant in Chennai. The study is based on descriptive research design and survey method using questionnaire with 114 social media users as sample for primary data on convinces sampling technique. The paper is mainly targeting the respondents who are using the online platform for restaurant services. By the way customer preferences, comfort and expectation on choosing the particular restaurant service with the help of online service. Since the online user rate is growing day by day so to know the applicability and usage of online food order from restaurant the findings can help the restaurants to improve the quality on current trend. Thus, restaurant people should be prepared to meet these challenges. One move towards in gaining competitive return and ensuring sustainable business performance is to focus on service quality.***

Key words: *online food order, customer expectation, restaurant.*

I. STATEMENT OF THE PROBLEM

In the existing business environment customers need a fast change and further service companies should act on various ways to add value for their customer by offering better sales, and also to known whether the buyers are satisfied after the purchase, which depends upon the quality of service performance in relation to the buyer expectations.

Today's most successful restaurants are raising customer expectations and customer relationship to match their needs. Hence this studies focus upon the area of customer expectation and satisfaction of online food order towards various facilities by food order companies

II. OBJECTIVES OF THE STUDY

- To measure the analysis the customer expectation and satisfaction on online food order from restaurant
- To analyzes the best online food order company
- To know the demographical profile of the respondents.
- To identified different promotional methods, particularly the sales promotional methods and advertisement.

III. SCOPE OF THE STUDY

Online food order is as important to restaurant today as they have ever been. The overall scope of online food order is to improve service market productivity. The solutions have broadened the scope of customer expectation information to every restaurant and to food delivery companies, through appropriate delivery of essential customer data to information workers, wherever it's needed.

IV. LIMITATIONS

The present study is based on the primary data was collected from the common public in Chennai city. Hence, the limitations of the field level survey are very much applicable to the present research. The findings and recommendations may not be applicable to the other places like ruler area. The data and information collected from the respondents are subjected to recall bias.

V. RESEARCH METHODOLOGY

The research design is a plan for the study that guides the collection and analysis of data forms is an inseparable part of this study primarily it aims at "analyzing the role of social media to strengthen the services quality of restaurant".

VI. KEY ISSUE & THE OPTIONS SELECTED

S.No	KEY ISSUE	OPTIONS SELECTED
1	Data Source	Primary Data and Secondary Data
2	Research Approach	Survey Method
3	Instrument Used	Questionnaire
4	Area of Survey	Chennai
5	Sampling Plan:	
(a)	Sampling Unit	114 Customers
(b)	Sampling Size	114
(c)	Sampling Techniques	Convenient Sampling
(d)	Method used to collect	Direct Contact Method
6	Method of Analysis	Percentage Method Weighted Average Method Chi-Square Test

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A STUDY ON EMPLOYEE ENGAGEMENT IN IT SECTOR

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ABSTRACT

The employee engagement is where the people should always engage in an organization. The employee should be connected to an organization in an attribute to their behavior. The employee should be motivated through an engagement in an organization. While working, the people should be active within the organization. The organizations should give due emphasize on the following three constructs such as intimacy, enthrall and participation to keep their employees engaged with work as well as with the organization. The main purpose of this study related to impact of employee engagement in IT sector. This study is an empirical study conducted to know the relationship between employee engagements.

KEYWORDS: Employee Engagement, Organization Behavior, Work Engagement, Motivation & IT Sector

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INTRODUCTION

The employee should stay connected with the organization with involvement, passion and innovation to the organizational activity. The employee performance is linked physically and emotionally to the progress of the organization. The employee engagement consists of two major parts, they are job related engagement and the other is organizational engagement. Employee character and talent to assist their company to succeed by providing discretionary services at the prompt time. There should be a good relationship employee and employer. Employee engagement in team and co-worker relationship is referred to need individuals possess and having rewarding interpersonal interaction with their co-workers. In any organization, the leader has to be supported by his subordinates and co-workers. This valuable support will persuade them to achieve the goal. The employee engagement is all about commitment towards the goals of the employer and involving completely for the growth of oneself and the organization.

REVIEW OF LITERATURE

- V. Prabhakar & Reddy G (2016) founded that there is positive attitude of employees in that organization. The author concluded that significant association between employee engagement and demographic variable. The factors which are considered as the essential factors of employee engagement are organizational support, effective goal-setting, customized training.
- Sheetal Yadav and Kishore Kumar Morya (2019) revealed that employee engagement helps an organization to get discretionary efforts from their employees to provide the competitive edge to the organization.
- Solomon Markos and Sandhya Sridevi (2010) suggested organization to concentrate on employees to have

A Study on the Factors Influencing Stock Selection Process of Individual Investors *with Special Reference to Chennai City*

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Abstract

Behavioral Finance is a new field of study that studies individual and group investor's emotions and the impact of their behavior on the financial markets. It is all about trying to know biases in human behavior when it involves money. This paper examines the factors influencing stock selection process of individual investors. Many researches has been conducted to find out the factors that influence the investors' stock selection decision in stock market, but there are some unidentified factors that need to be research further. Factors influencing stock selection decisions are not always similar to every investors, it differs based on their personal motives. Primary data was collected through a structured questionnaire from 41 respondents in the Chennai city. It is found that the top five influencing factors in terms of order are recent price movement in the firm's stock, past performance of the stock, Firm status in the industry, Stock Marketability, Dividends paid. The least influencing factors by order are financial advisors and analyst recommendation, Broker recommendation, Friend's recommendation and Family member opinion. Further the results revealed that there is moderate positive relationship between the overall experiences on investor's earnings in the stock market and the investor's participation in the stock market for tax benefits.

Keywords: Behavioral Finance, Stock selection, stock market, decision making, investment, and Individual Investors.

Introduction

Indian economy is characterized as the fastest growing economy, and it is the second populated country in the world with around 1.3 billion population, out of which 2.5% people only invested in the stock market. Volatility of the stock market, Lack of awareness, Lack of knowledge, Lack of capital, Unwillingness to take risk, More preference given to physical asset like land, gold, etc, are some important reasons for less participation of Indians in the stock market.

In India Globalization was started to begin from 1991 subsequently the Indian stock market started to grow at a rapid pace, even though

A STUDY ON PERCEPTION OF STUDENTS ON EMPLOYABILITY SKILLS WITH SPECIAL REFERENCE TO MANAGEMENT STUDENTS

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ABSTRACT

Perception on any issue is largely based on the belief and experience. The fact the institutions have largely designed the Management curriculum addressing only the technical subjects, and the students ignorantly believe and perceive the employability skills is all about subject knowledge, without understanding the hard reality of employability skills. The study attempted to know how the student perceives about his employability skills and their perception on the employability skills. The primary data was collected through a structured questionnaire and simple random sampling technique was adopted.

Key words: Employability Skills, Institution, Student's perception.

INTRODUCTION

Skill may be defined as goal-directed, well-organized behaviour that is acquired through practice and performed with economy of effort. A skill is the ability to carry out a task with determined results often within a given amount of time, energy, or both.

Skills can often be divided into domain-general and domain-specific skills. For example, in the domain of work, some general skills would include teamwork and leadership, time management, self-motivation and others, whereas domain-specific skills would be used only for a certain job. Skill usually requires certain environmental stimuli and situations to assess the level of skill being shown and used. Skill may be classified into two broader categories; Hard or Technical Skills and Soft or Human Skills.

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A STUDY ON IMPACT OF SOCIAL MEDIA AMONG SCHOOL AND COLLEGE STUDENTS

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ABSTRACT

Social media has become one of the best mediums for transfer of information and knowledge in the world. It is usually the younger generation that uses social media. Students especially use the medium to stay in touch with their old friends and also to meet new ones. Like any other technological innovation, it has got its own advantages and limitations. Schools are adopting technology for pedagogical purposes and introducing social media into the classrooms.

Social media can enable students to easily contact each other with regards to school projects and assignments. When social media is used in pedagogy, students who have difficulty in expressing their thoughts in their classrooms can get involved in the learning process.

Many Schools in Chennai direct their Teachers to form a group in what's App along with the parents. So that the Parents may be aware of the homework and assignments given to their children. Parents can also know the academic progress of their wards by using this media.

Students may be distracted from their school work. There is always a possibility that the students will not use social media for educational purposes.

Students that use social media regularly may lose their ability to engage in face to face communication. They write hurtful messages about other students and this could affect their life. It is impossible to know whether students will use the medium in a constructive manner. This research paper aims to study the impact of social media among School and College students in Chennai city.

Key words: Social media, Effectiveness, Teaching methods,Parental support.

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The Impact Of Social Media On Emotional Health Among Young People's Lives

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ABSTRACT: In current modern life, social media is developing fast. It is widely access by many people all over the world. Social media is especially very popular among the young People. However, there are many young people who cannot control themselves and are addicted towards social media. The research state that the young people always check their cellphones every five minutes onces to see what is going on social media. Teenagers are among the most prolific users of social Networking Sites (SNS). The current studies find that youth spend a considerable portion of their daily life interacting through social media. Subsequently, controversies and questions emerge about the effects SNS have on adolescent development.

These objectives are to determine high profile concerns and controversies that surround youth participation in these online communities. To identify both the positive and negative impact social media has had on society as a whole. – Andto suggest more productive ways of controlling and implementing time.

This review helps to outlines the theoretical frameworks researchers have used to understand adolescents and SNS. It brings together work from disparate fields that examine the relationship between SNS and social capital, privacy, youth security and safety, psychological well- being, and displaced behaviour, and interruption in sleep due to blue light exposure, educational achievement the result of sedentary behaviours on mental health, displaced behaviour, and interruption in sleep due to blue light exposure, physical health problem and social media's effects on platonic relationships.

Keywords: Social Media, psychological well-being, sedentary behaviours on mental health, sleep interruption due to blue light exposure, and social media's effects on platonic relationships.

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Enriching Higher Education With Social Media

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ABSTRACT

A large part of our daily internet use revolves around social media. this is especially true for the younger generations and provide a greater opportunity for higher education institutions that are hoping to persuade new students to enroll .it's obvious that social media marketing has a lot of potential educators just need to know how to get started. today social media accepted by higher education institution making a platform where students connect with their instructors.tis paper present about the various platform of social media and the enrichment of social media in higher education.

Key words: social media, higher education ,

INTRODUCTION

The term social media defined as the applications that allows users to converse and interact with each other to create edit and share new form of textual, visual and audio content ,and to categories label and recommend existing form of comment (SELWYN). The intersection of education and technology offers an existing opportunity for those with digital skills. Educators and administrators alike can leverage social media marketing to enhance their programme. Social media is the collective of online communications channels dedicated to community based input, interaction, content sharing and collaboration.

OBJECTIVES OF THE STUDY

- To know the important of social media in higher education
- To study the growth and role of social media in higher education
- To study the different channels of social media network.

RESEARCH METHODOLOGY

In this paper , the study is based on secondary data which is collected from various websites ,online journals and research papers from various authors.

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A Study On E-Loyalty On Online Consumers

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ABSTRACT

While e-commerce has brought in tremendous changes in the business market and in the growth of the economy of the nation, it is now e-loyalty which is the next concept gaining importance. E-loyalty aims at retaining the consumers with the companies where the competitors are only a click away. This research work aims at studying the major factors which determines the e- loyalty of online consumers. The study also examined how consumers respond to various marketing variables such as 'Price, Promotion, Product and Place' so as to serve as an aid for the online traders for understanding the consumers' buying behaviour. To accomplish these, the researcher generated primary data. The data were generated using questionnaire as the research instrument. The questionnaires were administered to the various consumers in rural, urban and semi urban for conducting a proper analysis.

Key words: Online shoppers, e- loyalty, consumer satisfaction, e-tailer

INTRODUCTION

Shopping has become easy with the advent of and development of internet and smart phones which reduce the cost and time for the consumers (Sai Vijai, 2019). There is a rapid growth in Indian e-commerce due to the high usage of internet and it is expected to touch US $ 200 billion by 2026. As far as Indian consumer are concerned, both International as well as National players compete each other to retain the mass range of consumers. Flipkart, Amazon, Paytm are the large online players in e-shopping followed by Snapdeal, e-bay India and Shopclues (Ajithj.kurup, 2018). Loyalty of the consumers can be identified by general loyalty, attitude, behaviour etc. Four dimensions of interpreting loyalty are cognitive, affective, conative, action (Claudia bobalca, 2012). Consumer loyalty is the major factor for profitability and long term growth of the firm (Mustafa I .eid, 2011)

Women Investors' Perception Towards Investment in Mutual Funds

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Abstract

A Mutual Fund is one of the most expedient investment options for the common man in India as it provides an opportunity to invest in a broad, professionally managed bunch of securities at a relatively low cost. The Mutual Fund industry unfolds as an important segment of the financial market of India as it channelizes and mobilizes funds from several investors and invest the same in the prominent equity and debt instruments. Idle funds are considered dangerous but at the same time investment in an ideal option is essential. This risk is borne by the competent fund manager, which is its best part. This context helps to have knowledge about the various factors influencing the buying behavior of Mutual Fund investors. This study aids to understand the attitude of women investors towards investment in Mutual Funds and further a brief understanding of how Mutual Fund succours for the sustenance of the upward trend of the financial market of India as well as understanding the term 'Green Mutual Funds', its importance for the longevity of the environment we dwell in.

Keywords: Mutual Funds, Women Investors' Attitude and Perception, Sustainable Development.

Introduction

Mutual Funds are financial intermediaries that collect funds from various small investors (Unit holders) and invest the same in large investment avenues on behalf of the investors and issue them securities (units). They serve as pure intermediary between small investors and the vast financial market. Mutual Funds involve three cardinal parties viz Sponsor, the Trust and the Asset Management Company (AMC). In short, Mutual Fund has large number of investors with one common objective through which the income that is generated is then distributed proportionately amongst all investors.

Organisation of Mutual Funds

Mutual Funds involve three cardinal parties viz Sponsor, the Trust and the Asset Management Company (AMC). The one

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A Descriptive Study On Role Of Social Networking In Present Scenario

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ABSTRACT

Social Networking sites are communication sites that allow people to connect, relate and collaborate on various issues. It became a part of their life. In today's world not only youngsters but people at various age groups are using Social Networking Sites for one or other purpose. This study aims at the level of influence of Social Networking Sites among respondents of various age groups and also to find its level of influence on personal relationship.

INTRODUCTION

Social networking has become an integral part in today's life. In past few era's, the usage of social networking is been gradually increasing. The term "Social Networking" refers to the process of getting connected to the people through various social media's. There are various social Medias like Whatsapp, Face book, Instagram, Twitter, YouTube, LinkedIn and few more to mention. Apart from various professional and commercial sectors, common people are also using Social networking in many ways. It is one of the fastest modes of communication which reaches large number of population. Now a days, social networking is been imbibed in our lives, so much that this generation cannot imagine their lives without it.

Through social networking people also finds jobs, use this as a platform to do marketing their products. This is also helpful for us in certain daily life purpose like discovering new facts, learning new information, sharing ideas and interacting. These social networking sites have revolutionized the way people communicate and socialize on the web.

OBJECTIVES OF THE STUDY

- To know the level of influence of social networking among the respondents.
- To know the level of influence of social networking on personal relationships.

RESEARCH METHODOLOGY

Researchers have adopted descriptive research method through which characteristics or phenomenon of the population being studied can be described. The sampling method used is convenient sampling. Sample size is 100. Google forms were used to collect data.

REVIEW OF LITERATURE

- **Valerio Arnaboldi, Marco conti & Andrea Pasarella (2015)** in their study on the structure of online social networks and offline world found that internal structure of the networks had the same kind of layered structure found in off line face-to-face networks. Online

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A Descriptive Study On Role Of Social Networking In Present Scenario

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