



"Sarva Shreshtha Dan Vidya Dan"

Samaj Shikshan Mandal

**AMRUTESHWAR ARTS, COMMERCE & SCIENCE COLLEGE,**

At Post Vinzar, Tal. Velha, Dist. Pune. Pin No. 412213

ID No. PU/PN/AC 121/(1997) AISHE No.: C-41472

NAAC Reaccredited - B

Principal

**Dr. Sanjeev Late**

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Ref. : A.A.C.S.C./ /20

Date : / / 20

## Internal Quality Assurance Cell

### CRITERIA-III

**KEY  
INDICATOR**

**3.3 Research Publication and Awards**

**MATRIC  
NUMBER**

**3.3.1**

Number of research papers published per teacher in the Journals notified on UGC care list during the last five years

3.3.1.1. Number of research papers in the Journals notified on UGC CARE year wise during the last five years

Item	Year				
	2017-18	2018-19	2019-20	2020-21	2021-22
Number of Research Papers	27	13	15	16	14
Total Number of Research Papers	85				
Average number of teachers	19				
Number of research paper per teacher	4.47				

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3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	JN num	Link to the recognition in UGC Link to website of the Journal	enlistment of the Journal /Digital Object Identifier (doi) Link to article / paper / abstract of the article	Is it listed in UGC Care list/Scopus/Web of Science/other, mention
GC-MS analysis and antioxidant potential of wild underutilized medicinally important legume, velvet bean ( <i>Mucuna pruriens</i> L. DC.)	Kamlakar C. MORE, Deepak B. SHELKE, Sunil TAYADE, Prashant GAWANDE, Hiralal B. SONAWANE	Botany	Notulae Scientia Biologicae	2021-22	2067-3264	<a href="https://notulaebiologicae.ro/index.php/nsb/article/view/11098">https://notulaebiologicae.ro/index.php/nsb/article/view/11098</a>	<a href="https://notulaebiologicae.ro/index.php/nsb/article/view/11098">https://notulaebiologicae.ro/index.php/nsb/article/view/11098</a>	Yes
Morphological, physiological, and biochemical responses to NaCl- nses to NaCl induced salt stress in mungbean ( <i>Vigna radiata</i> mungbean ( <i>Vigna radiata</i> <i>Vigna radiata</i> igna radiata L.) varieties	Ganesh D. MANKAR, Uttam R. WAYASE, Deepak B. SHELKE, Tukaram D. NIKAM, Rajkumar B. BARMUKH	Botany	Notulae Scientia Biologicae	2021-22	2067-3264	<a href="https://www.notulaebiologicae.ro/index.php/nsb/article/view/10936">https://www.notulaebiologicae.ro/index.php/nsb/article/view/10936</a>	<a href="https://www.notulaebiologicae.ro/index.php/nsb/article/view/10936">https://www.notulaebiologicae.ro/index.php/nsb/article/view/10936</a>	Yes
Fungi-derived agriculturally important nanoparticles and their application in crop stress management – Prospects and environmental risks	Hiralal Sonawane, Deepak Shelke, Mahadev Chambhare, Nishi Dixit, Siddharam Math, Suparna Sen, Siddhartha Narayan Borah, Nazim Forid Islam, Sanket J. Joshi, Balal Yousaf, Jorg Rinklebe, Hernen Sarma	Botany	Environmental Research	2021-22	0013-9351	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0013935122008702">https://www.sciencedirect.com/science/article/abs/pii/S0013935122008702</a>	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0013935122008702">https://www.sciencedirect.com/science/article/abs/pii/S0013935122008702</a>	Yes



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Synthesis of Novel Series of 1-(6-Hydroxy-4-(1H-indol-3-yl)-3,6-dimethyl-4,5,6,7-tetrahydro-1H-indazol-5-yl)ethan-1-one as Evaluations of their Antimicrobial Activity with Insilico Docking Study	Milind Gaikwad, Sunil Gaikwad, Rahul Kamble	Chemistry	Journal of Medicinal and Chemical Sciences	2021-22	2651-4702	<a href="http://www.jmchemsci.com/article_140624.html">http://www.jmchemsci.com/article_140624.html</a>	<a href="http://www.jmchemsci.com/article_140624.html">http://www.jmchemsci.com/article_140624.html</a>	Yes
Mild and efficient ammonium chloride catalyzed Greiner synthesis of tetrahydro- $\beta$ -carboline	Milind V. Gaikwad, Sunil V. Gaikwad, Rahul D. Kamble	Chemistry	Current Research in Green and Sustainable Chemistry	2021-22	2666-0865	<a href="https://www.sciencedirect.com/science/article/pii/S2666086522000108">https://www.sciencedirect.com/science/article/pii/S2666086522000108</a>	<a href="https://www.sciencedirect.com/science/article/pii/S2666086522000108">https://www.sciencedirect.com/science/article/pii/S2666086522000108</a>	Yes
STUDY OF TRANSPORTATION, TIME BARRIERS IN PHYSICAL ACTIVITY SPECIAL REFERENCE VELHE TAHSIL	Sheetal L. Shendkar	Physical Education	Shodhsa mbita	2021-22	2277-7067	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	
Cyprum micronutrient private limited, district kolhapur and It's working capital	Vijay B Kadam	Commerce	B. Adhar	2021-22	2278-9308	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	Yes
M/S Ninai Agro Privet Limited, District Satara and Its working Capital	Vijay B Kadam	Commerce	International Journal of Social Science and Management Studies	2021-22	2454-4655	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	Yes

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The Study of Cash Ratio of Privet Limited Fertilizer Units, Kolhapur District	Vijay B Kadam	Commerce	International Journal of Social Science and Management Studies	2021-22	2454-4655	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	Yes
Study of cash, cash equivalent and cash ratio of fertilizer units in Sangli districts	Vijay B Kadam	Commerce	Gradiva Review Journal	2021-22	0363-8057	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	Yes
NAVARATNA ORGANIC MANURES PRIVET LIMITED, DISTRICT SANGLI & IT'S WORKING CAPITAL	Vijay B Kadam	Commerce	Bengal, Past and Present	2021-22	0005-8807	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-2021-22/3.2.1-journals-notified-on-UGC.pdf</a>	Yes
Rhizoctonia bataticola: From plant pathogen to a potential source of pharmaceutically relevant metabolites	Hiralal Sonawane, Swapnil Ghule, Siddharth Math, Deepak Shelke, Ganesh Nikalje	Botany	Current Research in Green and Sustainable Chemistry	2021-22	2666-0865	<a href="https://www.sciencedirect.com/science/article/pii/S2666086521001181">https://www.sciencedirect.com/science/article/pii/S2666086521001181</a>	<a href="https://www.sciencedirect.com/science/article/pii/S2666086521001181">https://www.sciencedirect.com/science/article/pii/S2666086521001181</a>	Yes
Effect of elicitors on plant cell suspension culture for the enhancement of secondary metabolite production	Ganesh C Nikalje, Zimare SB and Shelke DB	Botany	National Journal of Pharmaceutical Sciences	2021-22	2788-9270	<a href="https://www.pharmajournal.net/article/9/1-1-10-318.pdf">https://www.pharmajournal.net/article/9/1-1-10-318.pdf</a>	<a href="https://www.pharmajournal.net/article/9/1-1-10-318.pdf">https://www.pharmajournal.net/article/9/1-1-10-318.pdf</a>	Yes



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Physical Health effects in Women working at Home after Covid Pandemic and efforts taken to optimize Health	Ritesh V. Wangwad, Seema A. Bagul	Geography (Humanity)	International Research Journal of Humanities and Interdisciplinary Studies	2021-22	2582-8568	<a href="https://irjhis.com/paper/IRJHIS2107033.pdf">https://irjhis.com/paper/IRJHIS2107033.pdf</a>	<a href="https://irjhis.com/paper/IRJHIS2107033.pdf">https://irjhis.com/paper/IRJHIS2107033.pdf</a>	Yes
Role Of Spirituality In Empowerment Of Women: A Brief Review	Dr. Seema Ashok Bagul/ Dr. Anuja Vikram Gawade	English and Commerce	B.Aadhar	2020-21	2278-9308			Yes
Feminism and literature: A study of Anita Nair's 'Ladies Coupe'	Seema Ashok Bagul, Anuja Vikram Gawade	English	Kanpur Philosopher	2020-21	2348-8301	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
Impact of online teaching on college students due to Covid-19	Anuja Vikram Gawade, Seema Ashok Bagul,	English and Commerce	Kanpur Philosopher	2020-21	2348-8301			Yes
maihlaa sabalalkrNa: Saasaklya Jpayayaojana ek AByaasa	Seema Ashok Bagul	English	Badhar	2020-21	2278-9308			Yes
Infrastructure and Factor Condition for the Development of Potential Tourist Places	Ritesh V. Wangwad, Vishali Kadam	Geography (Humanity)	Ajanta	2020-21	2277-5730			Yes
Self Reliant Industrial Sector by Atmanirbhar Bharat Abhiyan	Dr. Parmeshwar Sambhaji Gadkar	Economics	Ajanta	2020-21	2277-5730	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
Impact of Covid-19 on Indian Development Perspective	Dr P. S. Kamble	Economics	Ajanta	2020-21	2277-5730	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes



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Physical Health effects in Women working at Home after Covid Pandemic and efforts taken to optimize Health	Ritesh V. Wangwad, Seema A. Bagul	Geography (Humanity)	International Research Journal of Humanities and Interdisciplinary Studies	2021-22	2582-8568	<a href="https://irjhis.com/paper/IRJHIS2107033.pdf">https://irjhis.com/paper/IRJHIS2107033.pdf</a>	<a href="https://irjhis.com/paper/IRJHIS2107033.pdf">https://irjhis.com/paper/IRJHIS2107033.pdf</a>	Yes
Role Of Spirituality In Empowerment Of Women: A Brief Review	Dr. Seema Ashok Bagul/ Dr. Anuja Vikram Gawade	English and Commerce	B. Aadha	2020-21	2278-9308			Yes
Feminism and literature: A study of Anita Nair's 'Ladies Coupe'	Seema Ashok Bagul, Anuja Vikram Gawade	English	Kanpur Philosopher	2020-21	2348-8301	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
Impact of online teaching on college students due to Covid-19	Anuja Vikram Gawade, Seema Ashok Bagul,	English and Commerce	Kanpur Philosopher	2020-21	2348-8301			Yes
महिला सर्वोत्कर्षण: आसकीय उपाय योजना एक अध्ययन	Seema Ashok Bagul	English	Badhar	2020-21	2278-9308			Yes
Infrastructure and Factor Condition for the Development of Potential Tourist Places	Ritesh V. Wangwad, Vishali Kadam	Geography (Humanity)	Ajanta	2020-21	2277-5730			Yes
Self Reliant Industrial Sector by Atmanirbhar Bharat Abhiyan	Dr. Parmeshwar Sambhaji Gadkar	Economics	Ajanta	2020-21	2277-5730	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
Impact of Covid-19 on Indian Development Perspective	Dr P. S. Kamble	Economics	Ajanta	2020-21	2277-5730	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes



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A Study of Food Consumption Behaviour at the Time of Covid-19 pandemic in India	Dr. Parmeshwar Sambhaji Gadkar	Economics	Ajanta	2020-21	2277-5730	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
"DTP/SiO <sub>2</sub> : an efficient and reusable heterogeneous catalyst for synthesis of dihydropyran [3, 2-c] chromene-3-carbonitrile derivatives	RD Kamble, MV Gaikwad, MR Tapare, SV Hese, SN Kadam, AN Ambhore, BS Dawan	Chemistry	Journal of Applied Organometallic Chemistry	2020-21	2783-1272	<a href="http://jaoc.samipubco.com/article_128823.html">http://jaoc.samipubco.com/article_128823.html</a>	<a href="http://jaoc.samipubco.com/article_128823.html">http://jaoc.samipubco.com/article_128823.html</a>	Yes
Metal-free efficient thiolation of C (sp <sup>2</sup> ) functionalization via in situ-generated NHTS for the synthesis of novel sulfenylated 2-aminothiazole and imidazothiazole	Shuddhodan N Kadam, Ajay N Ambhore, Rahul D Kamble, Mahesh G Wakhradkar, Priya D Gavhane, Milind V Gaikwad, Krishna Chaitanya Gunturu, Bhaskar	Chemistry	New Journal of Chemistry	2020-21	1369-9261	<a href="https://pubs.rsc.org/en/content/articlelanding/2021/nj/d0nj05904h/unauth">https://pubs.rsc.org/en/content/articlelanding/2021/nj/d0nj05904h/unauth</a>	<a href="https://pubs.rsc.org/en/content/articlelanding/2021/nj/d0nj05904h/unauth">https://pubs.rsc.org/en/content/articlelanding/2021/nj/d0nj05904h/unauth</a>	Yes
A Short Synthesis of Carbazole Alkaloids Murrayanine and Mukonine	Milind V Gaikwad, Rahul D Kamble, Shrikant V Hese, Shuddhodan N Kadam, Ajay N Ambhore, Sunil V Gaikwad, Ashok P Acharya, Bhaskar S	Chemistry	Chemical Methodologies	2020-21	2645-7776	<a href="http://www.chemmethod.com/article_131552.html">http://www.chemmethod.com/article_131552.html</a>	<a href="http://www.chemmethod.com/article_131552.html">http://www.chemmethod.com/article_131552.html</a>	Yes
A Note on Conditional Edge Connectivity of Hypercube Networks	J. B. Saraf and Y. M. Borse	Mathematics	Journal of Interconnection Networks	2020-21	1793-6713	<a href="https://www.worldscientific.com/doi/10.1142/S0219265921500079">https://www.worldscientific.com/doi/10.1142/S0219265921500079</a>	<a href="https://www.worldscientific.com/doi/10.1142/S0219265921500079">https://www.worldscientific.com/doi/10.1142/S0219265921500079</a>	Yes
आत्मनिर्भर भारतयोजना व नियोजन	संजीव लारे	कॉमर्स एंड इकॉनॉमिक्स	Ajanta	2020-21	2277-5730	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes



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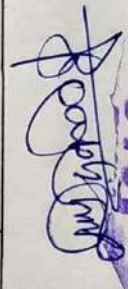
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राष्ट्रीय उच्च शिक्षा अभियान (रूमा) व उच्च शिक्षणतील गुणवत्ता	मजीव लाटे	कौमर्ष एंड इकॉनॉमिक्स	कानपुर फिलॉसफर	2020-21	2229-4929	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
नैकत्या चक्यूहात महाविद्यालयांचे मूल्यांकन	मजीव लाटे	कौमर्ष एंड इकॉनॉमिक्स	कानपुर फिलॉसफर	2020-21	2348-8301	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
नवीन शैक्षणिक धोरण	मजीव लाटे	कौमर्ष एंड इकॉनॉमिक्स	कानपुर फिलॉसफर	2020-21	2348-8301	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
Hypoglycemic and antitumor activity of crude exopolysaccharides of medicinal mushroom Phellinus badius on streptozotocin-induced diabetic rats and goat eye lenses respectively	Hiralal Sonawane, Sagar Arya, Vikram Ghole, Kishori Apte, Deepak Shelke, Manohar Chaskar	Botany	Bioactive Carbohydrates and Dietary Fibre	2019-20	2212-6198	<a href="https://www.sciencedirect.com/science/article/abs/pii/S2212619820300322">https://www.sciencedirect.com/science/article/abs/pii/S2212619820300322</a>	<a href="https://www.sciencedirect.com/science/article/abs/pii/S2212619820300322">https://www.sciencedirect.com/science/article/abs/pii/S2212619820300322</a>	Yes
TIME-DEPENDENT DETERMINATIVE BIOCHEMICAL TRAITS FOR SALT TOLERANCE MECHANISM IN MUNGBEAN (Vigna radiata (L.) R. WILCZEK)	Rajkumar Baban Barnukh Ganesh Deepak Mankar, Uttam Ramchandra Wayase, Deepak Bhaskar Shelke, Kiran Bharat Raskar, Tukaran Dayaram Nikam	Botany	Journal of Experimental Biology and Agricultural Sciences	2019-20	2320-8694	<a href="https://iebas.org/ojs/index.php/iebas/article/view/17">https://iebas.org/ojs/index.php/iebas/article/view/17</a>	<a href="https://iebas.org/ojs/index.php/iebas/article/view/17">https://iebas.org/ojs/index.php/iebas/article/view/17</a>	Yes
On conditional connectivity of the Cartesian product of cycles	J. B. Saraf, Y. M. Borse, G. Munde	Mathematics	Discussions in Mathematics and Graph Theory	2019-20	2083-5892	<a href="https://doi.org/10.7151/dmgt.234848">https://doi.org/10.7151/dmgt.234848</a>	<a href="https://doi.org/10.7151/dmgt.234848">https://doi.org/10.7151/dmgt.234848</a>	Yes

  
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On conditional connectivity of the Cartesian product of cycles	J. B. Saraf, Y. M. Borse, G Munde	Mathematics	Discussions on Mathematics Graph Theory	2019-20	2083-5892	<a href="https://doi.org/10.7151/dmgt.2348">https://doi.org/10.7151/dmgt.2348</a>	Yes
A Study of welfare facilities and its impact on employee satisfaction	Anuja Gavade	Commerce	AMIERJ	2019-20	2278-5655	<a href="http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf">http://amruteshwar.org/pdf/criteria-III/3.2.1-journal-notified-on-UGC.pdf</a>	Yes
DECLINE THE VALUE OF RUPEE AND ITS EFFECT ON INDIAN ECONOMY	DR. MAHADEV DATTU DONGARE	Commerce and Economics	International Multidisciplinary E-Journal	2019-20	2277-4262	<a href="http://www.shreeprakashan.com/PublishedArticles.aspx?year=2020&amp;month=3">http://www.shreeprakashan.com/PublishedArticles.aspx?year=2020&amp;month=3</a>	Yes
ANTI-COLONIAL SOCIO-ECONOMIC MOVEMENT OF TRIBAL IN INDIA	DR. MAHADEV DATTU DONGARE	Commerce and Economics	International Multidisciplinary E-Journal	2019-20	2277-4262	<a href="http://www.shreeprakashan.com/PublishedArticles.aspx?year=2020&amp;month=4">http://www.shreeprakashan.com/PublishedArticles.aspx?year=2020&amp;month=4</a>	Yes
FOOD PROCESSING INDUSTRY IN INDIA: AN EXPORT ORIENTED SECTOR	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Scholar	2019-20	2455-314X	<a href="http://www.puneresearch.com/scholar/volume/118">http://www.puneresearch.com/scholar/volume/118</a>	Yes
INDIAN TRIBES AND EFFECTS OF GLOBALIZATION	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Scholar	2019-20	2456-0960	<a href="http://www.puneresearch.com/times/volume/117">http://www.puneresearch.com/times/volume/117</a>	Yes
PACKAGING INDUSTRY IN INDIA: A KEY ROLE IN ECONOMIC DEVELOPMENT	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research World	2019-20	2455-359X	<a href="http://www.puneresearch.com/world/volume/116">http://www.puneresearch.com/world/volume/116</a>	Yes



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SCRUTINY OF CORPORATE FRAUDS IN INDIA FROM ETHICAL PERSPECTIVE	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Scholar	2019-20	2455-314X	<a href="http://www.puneresearch.com/scholar/volume/114">http://www.puneresearch.com/scholar/volume/114</a>	<a href="http://www.puneresearch.com/scholar/volume/114">http://www.puneresearch.com/scholar/volume/114</a>	Yes
TRIBAL DEMOGRAPHY AND SOCIO-ECONOMIC STATUS OF TRIBES IN INDIA	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Discoverer	2019-20	2455-9202	<a href="http://www.puneresearch.com/discovery/volume/113">http://www.puneresearch.com/discovery/volume/113</a>	<a href="http://www.puneresearch.com/discovery/volume/113">http://www.puneresearch.com/discovery/volume/113</a>	Yes
Human Resource and Importance of Soft Skill: A brief review	Seema Ashok Bagul	English	AMIERJ	2019-20	2278-5655			Yes
Best Practices in librarianship- Services to the readers: Compilation of Who's who	Mokashi Ramchandra Manohar	Library	Shodh Sanchar bulletin	2019-20	2229-3620			Yes
Environmental Implication of Globalization	Dr. Suresh Muluk	Political Science	Sambodhi	2019-20	2249-6661			Yes
India is an emerging tourist country	Dr. Suresh Muluk	Political Science	SRJS	2019-20	2278-8808			Yes
Existence of 3-regular subgraphs in Cartesian product of cycles	Y.M. Borse, J.B. Saraf (J.T. Bhat)	Mathematics	AKCE International Journal of Graph and Combinatorics	2018-19	2543-3474	<a href="https://www.tandfonline.com/doi/full/10.1016/j.akcej.2018.07.001">https://www.tandfonline.com/doi/full/10.1016/j.akcej.2018.07.001</a>	<a href="https://www.tandfonline.com/doi/full/10.1016/j.akcej.2018.07.001">https://www.tandfonline.com/doi/full/10.1016/j.akcej.2018.07.001</a>	Yes
Design, synthesis and in silico study of pyridine based 1, 3, 4-oxadiazole embedded hydrazinecarbothioamide derivatives as potent anti-tubercular agent	Ajay N Ambhore, Sonali S Kamble, Shuddhodan N Kadam, Rahul D Kamble, Madhav J Hebade, Shrikant V Hese, Milind V Gaikwad, Rohan J Meshram, Rajesh N Gacche, Bhaskar S	Chemistry	Computational Biology and Chemistry	2018-19	1476-9271	<a href="https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265">https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265</a>	<a href="https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265">https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265</a>	Yes



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Geographical impact on the health of the people of different age group living in south konkan region of Maharashtra	Ritesh Wangwad	Geography (Humanity)	Ajanta	2018-19	2277-5730			Yes
Swami Vivekanand Thoughts on Spirituality and Management Science	Dr. Yogesh N. Shrikhande	Commerce	Ajanta	2018-19	2277-5730			Yes
Evolving best and unique practices in higher education institutes by autonomous colleges in Pune city	Prof. Yogesh N. Shrikhande	Commerce	Ajanta	2018-19	2277-5730			Yes
The Study of Sanjay Gandhi Niradhar Anudan Yojana: Administrative and Implementation Perspective with Special Reference to Pune District	Dr. Manohar Sanap & Ms. Anuja Gawade	Commerce	'RESEARCH JOURNAL' International E-Research Journal	2018-19	2348-7143	<a href="https://www.researchjourney.net/special-issues">https://www.researchjourney.net/special-issues</a>	<a href="https://www.researchjourney.net/special-issues">https://www.researchjourney.net/special-issues</a>	Yes
Samajya gaaMQal inaraQaar yaaoOjanaa ek dYTXaop	Dr. Manohar Sanap & Ms. Anuja Gawade	Commerce	'RESEARCH JOURNAL' International E-Research Journal	2018-19	2348-7143	<a href="https://www.researchjourney.net/special-issues">https://www.researchjourney.net/special-issues</a>	<a href="https://www.researchjourney.net/special-issues">https://www.researchjourney.net/special-issues</a>	Yes
Evaluation of E-banking System in India	Dr. Parmeshwar Sambhaji Kamble	Economics	Research Journey	2018-19	2348-7143			Yes
Challenges and opportunities of Start Up India	Dr. P. S. Gadkar	Economics	Our Heritage	2018-19	0474-9030			Yes



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Design, synthesis and in silico study of pyridine based 1, 3, 4-oxadiazole embedded hydrazinecarbothioamide derivatives as potent anti-tubercular agent	Ajay N Ambhore, Sonali S Kamble, Shuddhodan N Kadam, Rahul D Kamble, Madhav J Hebade, Shrikant V Hese, Milind V Gaikwad, Rohan J Meshram, Rajesh N Gacche, Bhaskar S	Chemistry	Computational Biology and Chemistry	2018-19	1476-9271	<a href="https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265">https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265</a>	<a href="https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265">https://www.sciencedirect.com/science/article/abs/pii/S1476927118309265</a>	Yes
Na <sup>+</sup> and Cl <sup>-</sup> induce differential physiological, biochemical responses and metabolite modulations in vitro in contrasting salt-tolerant soybean genotypes	Deepak B Shelke, Ganesh C Nikalje, Mahadev R Chambhare, Balkrishna N Zaware, Suprasanna Penna, Tukaram D Nikam	Botany	3 Biotech	2018-19	2190-5738	<a href="https://link.springer.com/article/10.1007/s13205-019-1599-6">https://link.springer.com/article/10.1007/s13205-019-1599-6</a>	<a href="https://link.springer.com/article/10.1007/s13205-019-1599-6">https://link.springer.com/article/10.1007/s13205-019-1599-6</a>	Yes
Influence of Sodium chloride on Morpho-physiological responses of grass pea (Lathyrus sativus L.) During Germination and Early Seedling Growth	Nikalje GC Shelke DB, Bhusare BP, Sonawane HB	Botany	Online International Interdisciplinary Research Journal	2018-19	2249-9598	<a href="http://www.ojs.iiijr.org/ojs/2019-special-issue(03)/02.pdf">http://www.ojs.iiijr.org/ojs/2019-special-issue(03)/02.pdf</a>	<a href="http://www.ojs.iiijr.org/ojs/2019-special-issue(03)/02.pdf">http://www.ojs.iiijr.org/ojs/2019-special-issue(03)/02.pdf</a>	Yes
Yogic nutritional status and diet of school students	Sheetal L Shendkar	Physical Education	Horizon Palatra	2018-19	2319-6459			Yes
Effective Health, Safety and Welfare practices for generation 'Y' employee in BPO industry	Prof. Yogesh N. Shrikhande	Commerce	International Journal of Multidisciplinary Studies	2017-18	2454-8499			Yes



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The impact of demonetization on India economy	Vijay B Kadam	Commerce	International Journal of Multidisciplinary Studies	2017-18	2454-8499			Yes
BANKING FRAUDS IN INDIA: AN ANALYTICAL STUDY	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Scholar	2017-18	2455-314X	<a href="http://www.puneresearch.com/scholar/volume/79">http://www.puneresearch.com/scholar/volume/79</a>	<a href="http://www.puneresearch.com/scholar/volume/79">http://www.puneresearch.com/scholar/volume/79</a>	Yes
Poiteratures of Indian womens in Anita Nairs Ladies Coupe and Mistress	Dr. Madhavi Pawar, Seema Bagul	English	Ajanta	2017-18	2277-5730	0	0	Yes
Contemporary women novelist: A femanist Study (Geeta Hariharan and Manju Kapur)	Seema Bagul, Dr. Madhavi Pawar	English	Review of Research	2017-18	2249-894X			Yes
Recent technological trends of Indian Banking System	Dr. Parmeshwar Sambhaji Kamble	Economics	Ajanta	2017-18	2277-5730			Yes
Baartlya maithlaa prrvat-naacal sa isqatl	Prof. Suresh Shankar Muluk	Political Science	AMIERJ	2017-18	2278-5655			Yes
Commercial and Globalization	Prof. Suresh Shankar Muluk	Political Science	EIJR	2017-18	2277-8721			Yes
Globalization and Catching Up	Prof. Suresh Shankar Muluk	Political Science	EJMMS	2017-18	2394-207X			Yes
Gopal Ganesh Agarkar's Contemplation on Religion	Dr. Balasaheb Maruti Kendale	History	Ajanta	2017-18	2277-5730	<a href="https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0037-1609553">https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0037-1609553</a>	<a href="https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0037-1609553">https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0037-1609553</a>	Yes



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Metal-Free One-Pot Chemoselective Thioacylation of Imidazothiazoles and 2-Amino-4-thiazoles with in situ Generated N-Thioacylanatosuccinimide	Shuddhodan N. Kadam Ajay N. Ambhore Madhav J. Hebade Rahul D. Kamble Shrikant V. Hese Milind V. Gaikwad Priya D. Gavhane Bhaskar S. Dawane	Chemistry	Synlett	2017-18	0936-5214			Yes
Synthesis of Pyrazolo [4,3-c] Pyrimido [1,2-a] Pyrimidin-3-Amine Derivatives and their Antimicrobial Activity	Milind V. Gaikwad, Rahul D Kamble, Shrikant V. Hese, Shuddhodan N. Kadam, Ajay N. Ambhore, Bhaskar S. Dawane*	Chemistry	Journal of Pharmaceutical, Chemical and Biological Sciences	2017-18	2348-7658	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0981942817302358">https://www.sciencedirect.com/science/article/abs/pii/S0981942817302358</a>	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0981942817302358">https://www.sciencedirect.com/science/article/abs/pii/S0981942817302358</a>	Yes
Salt responsive physiological, photosynthetic and biochemical attributes at early seedling stage for screening soybean genotypes	T.D. Nikam D.B. Shelke, M. Pandey, G.C. Nikalje, P. Suprasanna, B.N. Zaware	Botany	Plant Physiology and Biochemistry	2017-18	0981-9428			Yes
Role of Medicinal Mushrooms in Immunomodulation	Shelke DB Sonawane HB, Shinde BM	Botany	International Research Journal of multidisciplinary studies	2017-18	2454-8499			Yes
Effect of physiological training on competition stress of kho-kho players	Sheetal L Shendkar	Physical Education	Research Journey	2017-18	2348-7143			Yes

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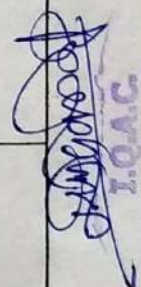


Effect of physiological training on competition stress of wrestling players	Sheetal L Shendkar	Physical Education	Research Journey	2017-18	2348-7143			Yes
Determination of organizational commitment of generation Y Employees in B. P.O. Sector in India with special reference to Pune city	Prof. Yogesh N. Shrikhande	Commerce	Scholarly Research Journal for Interdisciplinary Studies	2017-18	2349-4766			Yes
HR Practices in changing workplace and societal setup with special reference to BPO industry in Pune city	Prof. Yogesh N. Shrikhande	Commerce	Research Revolution	2017-18	2319-300X			Yes
Study of working capital of diamond lifter organic fertilizers private limited, district Pune	Vijay B Kadam	Commerce	Research Dimension	2017-18	0976-8564			Yes
Literature review on working capital management	Vijay B Kadam	Commerce	Research Dimension	2017-18	0976-8564			Yes
INDIAN ADIVASI WOMEN AND INVOLVEMENT IN ECONOMIC ACTIVITY	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Scholar	2017-18	2455-314X	<a href="http://www.puneresearch.com/scholar/volume/34">http://www.puneresearch.com/scholar/volume/34</a>	<a href="http://www.puneresearch.com/scholar/volume/34">http://www.puneresearch.com/scholar/volume/34</a>	Yes
INDIAN FOOD PROCESSING INDUSTRY: A KEY SENERGY OF INDUSTRY & AGRICULTURE	DR. MAHADEV DATTU DONGARE	Commerce and Economics	Pune Research Discoverly	2017-18	2455-9202	<a href="http://www.puneresearch.com/discovery/volume/45">http://www.puneresearch.com/discovery/volume/45</a>	<a href="http://www.puneresearch.com/discovery/volume/45">http://www.puneresearch.com/discovery/volume/45</a>	Yes



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Emerging trends of supply chain and management practices in India	Dr. K. Parmeshwar Sambhaji	Economics	Sankalan	2017-18	2454-9266			Yes
Recent trends of banking sector reforms in India	Dr. Parmeshwar Sambhaji Kamble	Economics	Scholarly Research Journal for Interdisciplinary Studies	2017-18	2278-8808			Yes
Does geography affects cardiovascular capacity of the person. Case study of people living in the south Konkon region	Riesh V Wangwad, Dr. R. V. Bhole	Geography (Humanity)	Journal of Research and Development	2017-18	2230-9578			Yes
Antidiabetic and allied biochemical roles of new ciromeno-pyrano pyrimidine compounds: synthesis, in vitro and in silico analysis	Shrikant V. Hese, Rohan J. Meshram, Rahul D. Kamble, Pratima P. Mogle, Kapil K. Patil, Sonali S. Kamble, Rajesh N. Gacche & Bhaskar S.	Chemistry	Medicinal Chemistry Research	2017-18	1554-8120		<a href="https://doi.org/10.1007/s00044-017-1">https://doi.org/10.1007/s00044-017-1</a>	Yes
The study causes of prevalence of physical injuries in women kabbadi players	Sheetal L Shendkar	Physical Education	IRJMS	2017-18	2454-8499			Yes

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Emerging trends of supply chain and management practices in India	Dr. K. Parmeshwar Sambhaji	Economic s	Sankalan	2017-18	2454-9266		Yes
Recent trends of banking sector reforms in India	Dr. Parmeshwar Sambhaji Kamble	Economic s	Scholarly Research Journal for Interdisciplinary Studies	2017-18	2278-8808		Yes
Does geography affects cardiovascular capacity of the person. Case study of people living in the south Konkoni region	Riesh V Wangwad, Dr. R. V. Bhole	Geography (Humanity)	Journal of Research and Development	2017-18	2230-9578		Yes
Antidiabetic and allied biochemical roles of new chromeno-pyranopyrimidine compounds: synthesis, in vitro and in silico analysis	Shrikant V. Hese, Rohan J. Meshram, Rahul D. Kamble, Pratima P. Mogale, Kapil K. Patil, Sonali S. Kamble, Rajesh N. Gacche & Bhaskar S. Sheetal L. Shendkar	Chemistry	Medicinal Chemistry Research	2017-18	1554-8120	<a href="https://link.springer.com/article/10.1007/s00044-017-1117-1">https://link.springer.com/article/10.1007/s00044-017-1117-1</a>	Yes
The study causes of prevalence of physical injuries in women kabbadi players		Physical Education	IRJMS	2017-18	2454-8499		Yes



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Emerging trends of supply chain and management practices in India	Dr. K. Parmeshwar Sambhaji	Economics	Sankalan	2017-18	2454-9266	
Recent trends of banking sector reforms in India	Dr. Parmeshwar Sambhaji Kamble	Economics	Scholarly Research Journal for Interdisciplinary Studies	2017-18	2278-8808	
Does geography affects cardiovascular capacity of the person. Case study of people living in the south Konkonn region	Riesh V Wangwad, Dr. R. V. Bhole	Geography (Humanity)	Journal of Research and Development	2017-18	2230-9578	
Antidiabetic and allied biochemical roles of new chromeno-pyranopyrimidine compounds: synthesis, in vitro and in silico analysis	Shrikant V. Hese, Rohan J. Meshram, Rahul D. Kamble, Pratima P. Mogale, Kapil K. Patil, Sonali S. Kamble, Rajesh N. Gacche & Bhaskar S. Sheetal L Shendkar	Chemistry	Medical Chemistry Research	2017-18	1554-8120	<a href="https://link.springer.com/article/10.1007/s00044">https://link.springer.com/article/10.1007/s00044</a>
The study causes of prevalence of physical injuries in women kabbadi players		Physical Education	IRJMS	2017-18	2454-8499	



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## GC-MS analysis and antioxidant potential of wild underutilized medicinally important legume, velvet bean (*Mucuna pruriens* L. DC.)

Kamlakar C. MORE<sup>1\*</sup>, Deepak B. SHELKE<sup>2\*</sup>, Sunil TAYADE<sup>1</sup>,  
Prashant GAWANDE<sup>1</sup>, Hiralal B. SONAWANE<sup>3</sup>

<sup>1</sup>Sant Gadge Baba Amravati University, Department of Botany, Amravati (M.S.),  
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<sup>2</sup>Amruteshwar Art's, Commerce and Science College, Department of Botany, Vinzar, Velha, Pune-412213, MS,  
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### Abstract

*Mucuna pruriens* (L.) DC is one of the most promising wild underutilized medicinal legume belonging to family Fabaceae. It is used in ayurvedic as well as various traditional systems of medicine. This plant was widely utilized in treatment of various disorders. Also, it is a rich source of nutrients as well as used as a flavouring agent in bakery industry. The present study was aimed to investigate leaves and seeds antioxidant potential by DPPH assay and phytochemicals by preliminary phytochemical screening and Gas Chromatography-Mass Spectroscopy (GC-MS) analysis in five different solvents. Highest antioxidant activity was found to be 76.96% in seeds extracted with ethanol and 72.50% in leaves extracted with petroleum ether. While preliminary phytochemical screening revealed presence of alkaloids, flavonoids, phenols, tannins, saponins, glycosides, steroids and terpenoids. GC-MS analysis revealed twenty-four and thirty bioactive compounds from the leaves and seeds respectively and it was solvent specific. Antioxidant, antifungal, antimicrobial, anti-malarial, anti-diabetic, anti-cancerous, and hypocholesterolemic properties have been reported to compounds which were found in present study. However, reported bioactive compounds highlight its nutritional importance and validate the use of the plant to cure various disorders by traditional practitioners. While the antioxidant potential and phytochemical investigations will direct their potential for utilization and applicability as a nutraceutical.

**Keywords:** antioxidants; GC-MS; *Mucuna pruriens*; phytochemicals

### Introduction

Herbal remedies were used to treat various diseases from ancient times. The phytoconstituents derived from natural sources create an attention for researchers due to their potential use in therapeutic treatment (Bhusare *et al.*, 2021a). In recent days huge amounts of synthetic medicines are explored but traditional remedies are gaining popularity day by day. Also, structural complexity makes chemical synthesis of important metabolite an unviable option, and makes plants the only source (Bhusare *et al.*, 2021b). However, the

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Mankar GD *et al.* (2021)  
Notulae Scientia Biologicae  
Volume 13, Issue 2, Article number 10936  
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Research Article

## Morphological, physiological, and biochemical responses to NaCl-induced salt stress in mungbean (*Vigna radiata* L.) varieties

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### Abstract

Seventeen mungbean varieties [*Vigna radiata* (L.) R. Wilczek] were subjected to 100-400 mM salinity stress at the germination stage, and the indices of seed germination and early seedling growth were analysed. With the increasing salinity, seed germination and seedling growth attributes were affected in all varieties. Principal component analysis and hierarchical cluster analysis of varietal responses on the germination and seedling growth attributes at 400 mM NaCl separated seventeen varieties into four distinct clusters. Principal component analysis at lower salt stress levels indicated that the attributes of germination and early seedling growth are reliable to identify salt-tolerant mungbean varieties. In contrast, only germination attributes are reliable at higher salinity levels. Two salt-susceptible and salt-tolerant varieties were further assessed for NaCl-induced physiological and biochemical changes. Levels of proteins, secondary metabolites, osmolyte, and antioxidants were increased at lower salt concentrations but reduced at higher salt concentrations. Photosynthetic pigments decreased and membrane damage increased under salinity. Varieties that showed tolerance to salt stress can be used in salinity-affected agriculture fields after validating their salt tolerance in field experiments.

**Keywords:** antioxidants; germination; NaCl; osmolytes; photosynthetic pigments; secondary metabolites

**Abbreviations:** DW: dry weight; DPPH: 2,2-Diphenyl-1-picrylhydrazyl; FGP: final germination percentage; FW: fresh weight; GI: germination index; GRI: germination rate index; HCA: hierarchical cluster analysis; MCA: multiple correlation analysis; MDA: malondialdehyde content; PCA: principal component analysis; PC: proteins content; RL: root length; STI: salt tolerance index; SL: shoot length; SR: secondary roots; SV: seedling vigor; TGI: Timson germination index; %TWC: percent tissue water content; TPC: total phenolics content; TFC: total flavonoids content; PRC: total proline content; TSC: total sugars content; TFAA: total free amino acid content.



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





## Environmental Research

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# Fungi-derived agriculturally important nanoparticles and their application in crop stress management – Prospects and environmental risks

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[Show more](#)  Share  Cite<https://doi.org/10.1016/j.envres.2022.113543>[Get rights and content](#)

## Abstract

Nanotechnology has a wide range of agricultural applications, with emphasize on the development of novel nano-agrochemicals such as, nano-fertilizer and nano-pesticides. It has a significant impact on sustainable agriculture by increasing agricultural productivity, while reducing the use of inorganic fertilizers, pesticides, and herbicides. Nano-coating delivery methods for agrochemicals have improved agrochemical effectiveness, safety, and consistency. Biosynthesis of nanoparticles (NPs) has recently been recognized as an effective tool, contrary to chemically derived NPs, for plant abiotic and biotic stress control, and crop improvement. In this regard, fungi have tremendous scope and importance for producing biogenic NPs of various sizes, shapes, and characteristics. Fungi are potential candidates for synthesis of biogenic NPs due to their enhanced bioavailability, biological activity, and higher metal tolerance. However, their biomimetic properties and high capacity for dispersion in soil, water environments, and foods may have negative environmental consequences. Furthermore, their bioaccumulation raises significant concerns about the novel properties of nanomaterials potentially causing adverse biological effects, including toxicity. This review provides a concise outline of the growing role of fungal-mediated metal NPs synthesis, its potential applications in crop field, and associated issues of nano-pollution in soil and its future implications.





## Original Article

# Synthesis of Novel Series of 1-(6-Hydroxy-4-(1*H*-indol-3-yl)-3,6-dimethyl- 4,5,6,7-tetrahydro-1*H*-indazol-5-yl)ethan-1-oneas Evaluations of their Antimicrobial Activity with Insilco Docking Study

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Dihydro-multi substitutedindazole

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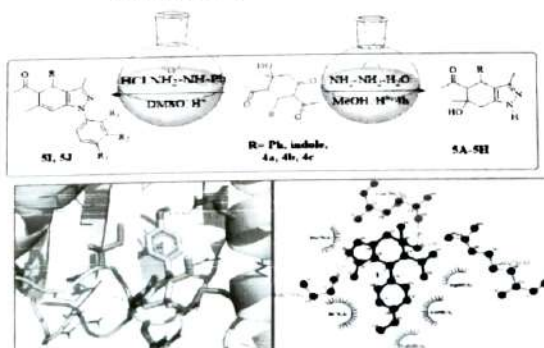
Ph-NH<sub>2</sub>-NH<sub>2</sub> Molecular docking

Antimicrobial activity

## ABSTRACT

This research study discusses the silico design, synthesis, and biological evaluation of novel effective phenyl, indole, 3,4-dimethyl substituted 4,5,6,7-tetrahydro-1*H*-indazole derivatives. The novel multi- substituted indazole derivatives (5A-5J) was synthesized from the treatment of hydrazine hydrates in MeOH/H<sup>+</sup> with multi substituted clohexanone derivatives (4a-4j). The final scaffold was characterized with the help of spectroscopic data such as IR, <sup>1</sup>H NMR, <sup>13</sup>C NMR, and mass spectra. The compound 5A, 5D, and 5F shows excellent antibacterial activity and the compounds 5B, 5C, 5H 5I and 5J exhibited moderate antibacterial activity against the *S. aureus*, *Bacillus subtilis* and *E. coli*. Finally, the molecular docking studies shows that the compound 5D and 5F scaffolds display excellent bonding mode of interactions with the active site of DNA gyrase 1KZN enzyme.

## GRAPHICAL ABSTRACT



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current-research-in-green-and-sustainable-chemistry/2666-0865](http://www.elsevier.com/journals/current-research-in-green-and-sustainable-chemistry/2666-0865)Mild and efficient ammonium chloride catalyzed Greener synthesis of tetrahydro- $\beta$ -carbolineMilind V. Gaikwad<sup>a,\*</sup>, Sunil V. Gaikwad<sup>b</sup>, Rahul D. Kamble<sup>c</sup><sup>a</sup> Dr. D.Y. Patil Arts, Commerce and Science College, Pimpri, Pune, Department of Chemistry, Maharashtra, 411018, India<sup>b</sup> Dr. D. Y. Patil Arts, Commerce and Science Women's College, Pimpri, Pune, Department of Chemistry, Maharashtra, 411018, India<sup>c</sup> Department of Chemistry, Amruteshwar ACS, College, Vinsar, Pune, MH, 412213, India

## ARTICLE INFO

**Keywords:**  
Tetrahydro- $\beta$ -carbolines  
Pictet–Spengler  
NH<sub>4</sub>Cl  
MgSO<sub>4</sub>

## ABSTRACT

This protocol involves the NH<sub>4</sub>Cl catalyzed Pictet–Spengler reactions of tryptamine and arylaldehydes in anhydrous MeOH solvent to give corresponding tetrahydro- $\beta$ -carbolines (TH $\beta$ C) with 90% yield. This methodology offers mild, efficient and green reagent towards the synthesis TH $\beta$ C with tolerance of wide functional group. This is the first report of Pictet–Spengler reaction using mild NH<sub>4</sub>Cl in MeOH solvent.

## 1. Introduction

Tetrahydro- $\beta$ -carboline (TH $\beta$ Cs) are exhibiting as corescaffolds in several bioactive alkaloids [(1a,b)] and other medicinally significant synthetic unit [2]. Primarily, TH $\beta$ Cs are known to possess antiviral, anticancer, antiprotazoal, (5HT) antagonistic, serotonin receptor [3], whereas, tetrahydropyrano [3,4-b]indoles exhibit potent antibacterial and antifungal activities [4]. The pinolinebasic unit of (TH $\beta$ Cs) produced in the pineal gland and used for reduce oxidative damage in the brain region and retinal homogenate [5]. The natural alkaloids containing core structures are shown in (Fig. 1) Show a broad range of biological activity [6]. In the last decade, many synthetic strategies have been developed for the preparation of tetrahydro- $\beta$ -carbolines. Among them, Pictet–Spengler (PS) reaction has emerged as a versatile technique for the construction of 2,3,4,9-tetrahydro-1H-pyrido [3,4-b]indole, 1,2,3,4-tetrahydroisoquinoline skeleton from the corresponding tryptamine, tryptophan and 2-phenylethan-1-amine derivatives respectively [7,8].

Since the discovery of PS reaction some of the interesting methods have been reported for the construction of tetrahydro- $\beta$ -carbolines which includes use of various catalyst such as AcOH [9], chloroacetic acid [10], TFA [11], p-toluenesulfonic acid [12], Au(I) complexes [13], benzoic acid [14], trifluoromethanesulfonic acid [15], formic acid [16], L-tartaric acid/H<sub>2</sub>O [17] and polyphosphoric acid [18]. Similarly, few Lewis acids such as titanium(IV) isopropoxide [19], BF<sub>3</sub>·OEt<sub>2</sub> [20], and some organocatalyst [21] also found to be worked for the PS reaction. However, most of these methods have drawbacks such as the use of strong condition, longer reaction time, high heating and stronger acid. Thus, the

development of new synthetic protocol for an efficient synthesis of tetrahydro- $\beta$ -carbolines is highly desirable.

We are always interested in the development of new protocol for the synthesis of medicinally important heterocyclic compounds [22,23,24]. In the connection of our recent work on the  $\beta$ -carboline [25,26], we were interested in the development of a flexible approach for the synthesis of TH $\beta$ C and 1,2,3,4-tetrahydroisoquinoline. Herein, we have explore NH<sub>4</sub>Cl mild, efficient and green acid catalyst for the synthesis of tetrahydro- $\beta$ -carbolines and 1,2,3,4-tetrahydroisoquinoline via Pictet–Spengler reactions between tryptamines and arylaldehydes.

## 2. Experimental section

## 2.1. General information

All the melting points were uncorrected and determined in an open capillary tube. The chemicals and solvents used were of laboratory grade and purified. Completion of the reaction was monitored by thin layer chromatography on precoated sheets of silica gel-G (Merck, Germany) using iodine vapors for detection. IR spectra were recorded in KBr pellets on an FTIR Perkin Elmer/Schimidzu/Bruker spectrophotometer. <sup>1</sup>H NMR (400 MHz) and <sup>13</sup>C NMR (100 MHz) spectra were recorded in (DMSO)-d<sub>6</sub> with an Avance spectrometer (Bruker, Germany) at a 400-MHz frequency using TMS as an internal standard; chemical shifts are reported in parts per million and coupling constant in hertz (Hz). Multiplicities are reported as follows: s (singlet), d (doublet), t (triplet), m (multiplet). Mass spectra were recorded on an EI-Shimadzu QP 2010

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## **Cyprium Micronutrient Private Limited, District Kolhapur And It's Working Capital**

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### **ABSTRACT**

Management of Working Capital is related with the difficulties that arise in attempting to manage current assets, current liabilities and the interrelationship that exists between them. This paper tries to make an attempt to study the working capital, components of working capital and liquidity of 'Cyprium Micronutrient Private Limited, District Kolhapur'. The research paper also efforts to study the correlation between liquidity and profitability of CMPLDK fertilize unit. The study is bases on secondary data collected from annual report of this fertilizer unit for the period of 5 years on website of ministry of company affair of India. In this paper, there is an application of correlation analysis for identity the significant of working capital management include the current ratio and quick ratio on the quiddity positon of CMPLDK.

### **KEY WORDS**

CMPLDK, Working Capital Management, Objectives, Hypothesis, Data Collection, Limitation, NWC, Current Ratio, Liquid Ratio, Findings, Suggestion and Conclusion.

### **INTRODUCTION**

Cyprium Micronutrient Private Limited, District Kolhapur (CMPLDK) and study of its Working capital is major significance of internal & external analysis because of its relationship with the current day to day operations of business. Funds, collected from different sources are invested in the business for the acquisition of assets. These assets are employed for earning revenue. The basic problem facing the finance manager of an enterprise is to trade-off between conflicting but equally important goals of liquidity and profitability and vice versa.

### **NEED OF STUDY**

1. To study the need of maintain sufficient working capital of fertilizer units.
2. To check balance between liquidity and short term.

### **OBJECTIVES OF THE STUDY**

- 1) To study the position of working capital of selected fertilizer units.
- 2) To make suggestions for the better working capital management of fertilizer units.

### **HYPOTHESIS**

**H0:** Insufficient working capital has adverse affected in the liquidity of fertilizer units under study.

**H1:** Insufficient working capital has not effecting in the liquidity of fertilizer units under study.

### **PERIOD OF STUDY**

The present study is undertaken for the period of five accounting year starting from 2012-2013 to 2016-2017. The researcher has selected 2012-2013 as base year for the purpose of analysis and evolution.

### **DATA COLLECTION**

Researcher has used secondary data as main sources for the presented research study. Annual accounting reports such as Income Statement and Position Statement are collected form website of Ministry of Corporate Affairs (MCA), Maharashtra Reginal Division, of Government of India.





## M/s Ninai Agro Privet Limited, District Satara & Its Working Capital

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**Abstract :-** Management of working capital is related with the difficulties that arise in attempting to manage current assets, current liabilities and the interrelationship that exists between them. This paper tries to make an attempt to study the working capital, components of working capital that is liquidity of M/s Ninai Agro Privet Limited, District Satara.

conflicting but equally important goals of liquidity and profitability and vice versa.

### Need of Study :-

1. To study the need of maintain sufficient working capital of fertilizer units.
2. To check balance between liquidity and short term.

### Objectives of the Study :-

- 1) To study the position of working capital of selected fertilizer units.
- 2) To make suggestions for the better working capital management of fertilizer units.

### Hypothesis :-

H0: Insufficient working capital has adverse affected in the liquidity of fertilizer units under study.

H1: Insufficient working capital has not effecting in the liquidity of fertilizer units under study.

**Period of Study :-** The present study is undertaken for the period of five accounting year starting from 2012-2013 to 2016-2017. The researcher has selected 2012-2013 as base year for the purpose of analysis and evolution.

**Data Collection :-** Researcher has used secondary data as main sources for the presented research study. Annual accounting reports such as Income Statement and Position Statement are collected from website of Ministry of Corporate Affairs (MCA), Maharashtra Regional Division, of Government of India.

The research paper also efforts to study the correlation between liquidity of NAPLDS fertilizer unit. The study is bases on secondary data only which was collected from annual report of this fertilizer unit for the period of 5 years on website of ministry of company affair of India. In this paper, an application of correlation analysis for Identity the significant of working capital management and it include the current ratio and quick ratio on the quiddity positon of NAPLDS fertilizer unit.

**Key Words :-** NAPLDS, Working Capital Management, Objectives, Hypothesis, Data Collection, Limitation, NWC, Current Ratio, Liquid Ratio, Findings, Suggestion and Conclusion.

**Introduction :-** M/s Ninai Agro Privet Limited, District Satara (NAPLDS) and study of its working capital is major significance of internal & external analysis because of its relationship with the current day to day operations of business. Funds are collected from different sources and it invested in the business for the acquisition of assets. These assets are employed for earning revenue. The basic problem facing the finance manager of an enterprise is to trade-off between





## The Study of Cash Ratio of Private Limited Fertilizer Units, Kolhapur District

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**Abstract :-** Cash and equivalent of cash and working capital is concerned with the problems that arise in attempt to manage the cash, current assets and current liabilities. This paper tries to make an attempt to study the cash, the components of cash and cash ratio in the district of Kolhapur. The paper also tries to study the correlation between cash and liquidity of selected fertilizer units in Kolhapur district. The study is based on secondary data collected from annual report of this private limited fertilizer units in the district of Kolhapur, for the period of 5 years which are taken from the website of ministry of company affair of India. This paper is trying an application of cash, analysis for identify the significant of working capital management include the particularly cash ratio and the liquidity position of this fertilizer units in the research area.

**Key Words :-** Cash & Equivalent of Cash, Cash Ratio, Objectives, Hypothesis, Data Collection, Limitation, PBSPLDK, CMPLDK & MAIDCLDK, Findings, Suggestion & Conclusion.

**Introduction :-** The cash and cash ratio shows the liquidity of an organisation that specifies capability to pay off short-term liability. The cash ratio is considered as liquidity ratio that measures the fertilizer unit's ability to pay off with highly liquid quick its short-term debts. Cash ratio is relation between cash and equivalents of cash with current liabilities.

### Need of Study :-

1. To study the need of maintain sufficient cash and cash equivalents of the fertilizer units.
2. To maintained sufficient balance of cash for the short term debts.

### Objectives of the Study :-

- 1) To study the position of cash, cash equivalents and cash ratio of selected fertilizer units.
- 2) To make suggestions for the better cash management of fertilizer units in research area.

### Hypothesis :-

**H0:** Insufficient cash and equivalent of cash has adverse affected in the liquidity of fertilizer units under study.

**H1:** Insufficient cash and equivalent of cash has not effecting in the liquidity of fertilizer units under study.

**Sample Size Selection :-** At present, there are total 19 private limited fertilizer units in research area. 16% sample size has selected i.e. 3 from private limited fertilizer units in Kolhapur District. It is covered on the basis of 'Geographically Random Sample' from this districts.

**Period of Study :-** The present study is undertaken for the period of five accounting year





## Study of Cash, Cash Equivalent and Cash Ratio of Fertilizer Units in Sangli District

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Savitribai Phule Pune University (SPPU), Pune, Maharashtra.

### ABSTRACT:

Working capital management particularly cash and cash equivalent that is concerned with the problems that arise in attempting to manage the cash, current assets and current obligations and its debts. This paper tries to make an attempt to study the cash, the components of cash and cash ratio in the District of Sangli.

The paper also tries to study the correlation between cash and debts of selected fertilizer units in Sangli district. The study is based on secondary data collected from annual report of this private limited fertilizer units in the district of Sangli, for the period of 5 years which are taken from the website of ministry of company affair of India. In this paper, there is an application of cash, analysis for identify the significant of working capital management the particularly cash ratio and the liquidity position of this fertilizer units in the research area.

### KEY WORDS:

Cash & Equivalent of Cash, Cash Ratio, Objectives, Hypothesis, Sample Size, Data Collection, Limitation, ABTLPDP, DLOFPLDP, MEBTLPDP, VCPPLDP, Findings, Conclusion & Suggestion.

### Introduction

The cash, equivalent of cash and cash ratio shows the liquidity of an organisation that specifies capability to pay off short-term liability with its liquidity. The cash ratio is a liquidity ratio that measures the fertilizer unit's ability to pay off short-term debts with highly liquid or quick assets. Cash ratio is relation between cash and cash equivalents with current liabilities.

### Need of Study

1. To study the need of maintain sufficient cash and cash equivalents of the fertilizer units.
2. To maintained sufficient balance of cash for the short term debts.

### Objectives of the Study

- 1) To study the position of cash, cash equivalents and cash ratio of selected fertilizer units.
- 2) To make suggestions for the better cash management of fertilizer units in research area.

### Hypothesis

**H0:** Insufficient cash and equivalent of cash has adverse affected in the liquidity of fertilizer units under study.

**H1:** Insufficient cash and equivalent of cash has not effecting in the liquidity of fertilizer units under study.

### Sample Size Selection



**NAVARATNA ORGANIC MANURES PRIVET LIMITED, DISTRICT SANGLI &  
IT'S WORKING CAPITAL**

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**Abstract**

Working Capital Management is related with the difficulties that arise in attempting to manage current assets, current liabilities and the interrelationship that exists between them. This paper tries to make an attempt to study the working capital, components of working capital and liquidity of 'Nvaratna Organic Manures Privet Limited, District Sangli'. The research paper also efforts to study the correlation between liquidity and profitability of NOMPLDS fertilize unit. The study is bases on secondary data collected from annual report of this fertilizer unit for the period of 5 years on website of ministry of company affair of India. In this paper, there is an application of correlation analysis for identity the significant of working capital management include the current ratio and quick ratio on the quiddity positon of NOMPLDS fertilizer unit.

**Keywords:** NOMPLDS, Working Capital Management, Objectives, Hypothesis, Data Collection, Limitation, NWC, Current Ratio, Liquid Ratio, Findings, Suggestion and Conclusion.

**Introduction**

Nvaratna Organic Manures Privet Limited, District Sangli (NOMPLDS) and study of its Working capital is major significance of internal & external analysis because of its relationship with the current day to day operations of business. Funds, collected from different sources are invested in the business for the acquisition of assets. These assets are employed for earning revenue. The basic problem facing the finance manager of an enterprise is to trade-off between conflicting but equally important goals of liquidity and profitability and vice versa.

**Need of study**

To study the need of maintain sufficient working capital of fertilizer units.  
To check balance between liquidity and short term.

**Objectives of the study**

To study the position of working capital of selected fertilizer units.  
To make suggestions for the better working capital management of fertilizer units.

**Hypothesis**

H0: Insufficient working capital has adverse affected in the liquidity of fertilizer units under study.  
H1: Insufficient working capital has not effecting in the liquidity of fertilizer units under study.

**Period of study**

The present study is undertaken for the period of five accounting year starting from 2012-2013 to 2016-2017. The researcher has selected 2012-2013 as base year for the purpose of analysis and evolution.

**Data Collection**

Researcher has used secondary data as main sources for the presented research study. Annual accounting reports such as Income Statement and Position Statement are collected form website of Ministry of Corporate Affairs (MCA), Maharashtra Reginal Division, of Government of India.

**Limitation of the study**

The study is limited to five year only.







# Rhizoctonia bataticola: From plant pathogen to a potential source of pharmaceutically relevant metabolites

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## ARTICLE INFO

### Keywords:

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## ABSTRACT

*Rhizoctonia bataticola* is an anamorphic phytopathogenic fungus which acts as facultative plant pathogens causing diseases to commercially important crops. The fungal metabolite analysis for pharmaceutical importance, mycotoxin characterization and taxonomy of industrially and medically important fungi is in need. Therefore, in the present work isolation and characterization of metabolites from *Rhizoctonia bataticola* and their biological activities were evaluated. The extract of *Rhizoctonia bataticola* showed strong antibacterial activity against gram-positive *S. aureus* and gram-negative *E. coli* bacteria. The increased in concentration of fungal extract reports increased in antibacterial and antioxidant activity. The extract of solid biomass was analyzed by LC-MS and first time reported 33 compounds including Dadezin, Genkwanin, Pentoxyfylline alcohol, Dihydrodeoxystreptomycin, 8-Cyclopentylthienophyllin, Prntrifamycin 1, Leukotriene D4, Protoveratrine A, Phedimetrozine as important ones. Among the reported compounds most of the compounds shows pharmacological properties like antileukemic activity, cardioprotective, anticancer, antifungal activity, antimicrobial activity, antihypertensive, anti-hypogonadal, and radical scavenging activities. Therefore, reported metabolite from fungal extract supports the biological activities. However further isolation and characterization of bioactive compounds from *Rhizoctonia bataticola* emerge as a potent source of bioactive compounds with potent bioactivities and can be help in solving bacterial multi-drug resistance in human pathogenic bacteria.

## 1. Introduction

*Rhizoctonia bataticola* is an anamorphic phytopathogenic fungi which act as facultative plant pathogens causing diseases to commercially important crop. It belongs to a ceratobasidiaceae family and has hyphae and sclerotia (hyphal propagules). It is well known to cause diseases viz., leaf blight, stem blight, wilt, seedling decay, root rot, seedling blight, charcoal rot, stalk rot, and fruit rot in crop plants [1]. The fungus *Rhizoctonia* is a taxonomic complex entity composed of morphologically similar groups [2]. The *Rhizoctonia* mainly associated to roots as a soil borne fungi. If host plant is absent then they behave like saprophytes and grow on dead and decay organic materials. Therefore, this fungus has reported in forest as well as agricultural soil throughout the world and majorly involved in economic loss of crop yield. It was reported that *R. bataticola* are important pathogen for many legumes and causes root rot and seedling blight when seedlings face severe other stress conditions

[3]. *R. Bataticola* caused disease to chickpea and well known as a Dry root (DRR). It is a serious threat to chickpea production and it results in 10–25% reduction in crop yield [1]. The climate change is the one of the important factors for its higher spread and development in new area [4]. For successful parasitism it synthesized cellulase, hemicellulase, pectinase, protease as hydrolytic enzymes and other secondary metabolites. To know these metabolites for to decide control measures and their importance to control others plant and animal pathogens is prerequisites. In spite of the importance of fungal metabolites, thorough assessment of their diverse metabolic landscape using metabolomic approaches is still in its initial stage and unexplored.

Number of metabolites from several types of *Rhizoctonia* has been isolated and identified and mostly belonging to fatty acids, steroids, phenolics, alkaloids, cyclopeptides etc. Sclerotial exudates of *R. Solani* represent a potential bioactive source and their metabolite composition are complex mixtures composed of phenolics, carboxylic acids,

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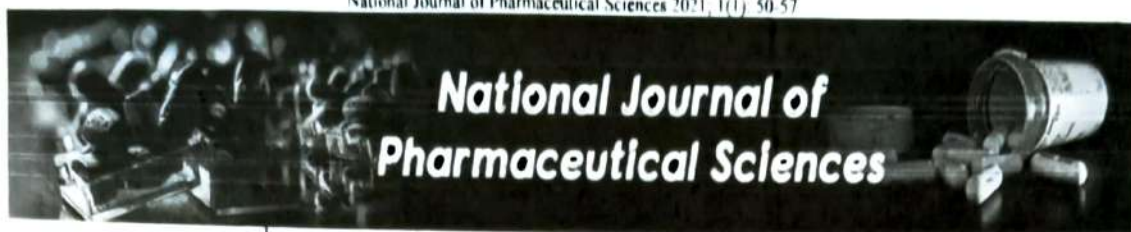
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## Effect of elicitors on plant cell suspension culture for the enhancement of secondary metabolite production

**Ganesh C Nikalje, Zimare SB and Shelke DB**

### Abstract

In present era, different tissue culture techniques are applied to enhance secondary metabolites production by triggering stress response. These stresses include application of elicitors, biotransformation, change in environmental conditions, change in medium constituents, precursors, etc. Among them, elicitors are substances that induce defense responses in plants. Elicitors are introduced into various organ cultures and in cell suspension cultures to increase the stress tolerance. The present review focuses on secondary metabolite production in plant cell suspension culture. This will help in conservation of rare and endangered medicinally important plants and it will also provide increased secondary metabolite production with less time and low cost.

**Keywords:** Cell suspension culture, elicitor, secondary metabolite production.

### Introduction

The extensive research work in the modern biological and chemical sciences have described the role of primary metabolites in vital life functions like cell division and growth, respiration, storage, and reproduction. The concept of secondary metabolite was first explained by Kossel<sup>[1]</sup>. He defined that secondary metabolites are opposed to primary ones. Later on, Czapek<sup>[2]</sup> have taken an important step and devoted an entire volume named "end product" to his 'plant biochemistry' series. As per Czapek, the secondary modification i.e. de-amination process in nitrogen metabolism gives rise to these end products. The secondary metabolites are often located at specific cell or organs and less than 1% of total carbon as compared to other main molecules. In the middle of 20<sup>th</sup> Century, advancement in different analytical techniques resulted in to identification and purification of several molecules which formed the basis of phyto-chemistry discipline. The paper chromatography revealed that some of the molecules are pigments. However, the possible role of these secondary metabolites in life cycle of plant is still mysterious as mentioned by Czapek as end product. Plant fitness is largely depending on production of secondary metabolites under environmental influence. Most of the secondary metabolites possesses bioactivities like antifungal, antibiotic, antiviral etc. Hence, they protect plant against pathogens and shows allelopathic effect which prevents germination of other species present in their vicinity. In addition, they possess UV absorbing compounds and prevents leaf damage from UV rays<sup>[3]</sup>. The classification of plant secondary metabolites is usually based on their biosynthetic pathways<sup>[4]</sup>. The secondary metabolites are grouped in to four families such as alkaloids, phenolics, steroids and terpenes. Among these phenolic family is widespread as its compounds are involved lignin synthesis and ubiquitous in higher plants. The alkaloids are sparsely distributed in plants and are specific to genus and species. Such narrow distribution of secondary metabolites forms basis of chemotaxonomy and chemical ecology. Because of the numerous biological activities of secondary metabolites, they have been used in traditional medicines for centuries.

In recent days, secondary metabolites correspond to value added products like cosmetics, fine chemicals or currently nutraceuticals. Recent studies have well established that in pharmaceutical industries chemistry is said to be backbone, however about 25% molecule used in this industry have natural plant origin<sup>[5]</sup>. The secondary metabolite production requires large scale cultivation of medicinal plants. However, it is difficult to cultivate specific biotype away from their natural ecosystem. Sometime the common plants with pathogen sensitivity are unable to grow in large fields, for example anthers on *Arnica montana* and *Hypericum perforatum*. Due to this, plant cell, tissue and organ cultures become popular choice for production of secondary metabolites.

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## Physical Health effects in Women working at Home after Covid Pandemic and efforts taken to optimize Health

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### Abstract:

*Covid Pandemic has affected the whole world. From last many months most of the employees has changed their working bases from office to home. New culture of work from home is been adopted by many offices and most probably will continue for few more months and in some sectors it might the permeant working culture. For many works from home finds to be one of the effective tools for the optimizing workers out put but when it comes to health and physical activities the situation needs to be focus on. In this entire scenario major challenge is to promote the health of the employees working from home. Aim of this study was to find out the impact of Work form Home on women's physical health and efforts taken by women to optimize their health. Z test two samples for mean was applied to test the null hypothesis.*

**Keywords:** Pandemic, Work form Home, women's physical health

### Introduction:

The current covid pandemic has put whole world in a unprecedented situation facing wide range of health and economic problems. [1,2] The drastic change in work from home environment and loss of thousands of jobs especially women. Employees worked in sectors able to work remotely, their homes have become their workplace, places of meetings, school, and place for relaxation. Ebbing of the 2<sup>nd</sup> wave, resumption of normal activities and economy begins to reopen, possibility of beginning of formal office environment is expected.[3] But some organizations would continue working form home for the foreseeable future to avoid the further risk.[4,5]





## Role Of Spirituality In Empowerment Of Women: A Brief Review

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### Absrtact

For centuries the role of majority of women has been that of a housewife and mother, but women can now choose a career over children and an economically independent life over family responsibilities. Society is trying to grapple with the consequences of this revolutionary change. Expected to be different things to different people, a woman today is challenged to draw upon traditional strengths while continuing to redefine her position in a rapidly changing society. Can women stop taking refuge in the familiar security of subservience and passivity, and rise above centuries of oppression to attain new heights? Spiritual empowerment holds the answer. It is a unique method of restoring the balance between the sexes. Such empowerment begins with an understanding of the spirit or soul.

The aim of this research article is to take a brief review of how spirituality plays very important role in empowering women with special reference to Brmhakumaris.

**Key Words:** Sprituality, Women Empowerment

### Introduction of Bramhakumaris Movement

Brmhakumaris is a worldwide spiritual movement dedicated to personal transformation and world renewal. Founded in India in 1937, Brmhakumaris has spread to over 110 countries on all continents and has had an extensive impact in many sectors as an international NGO. However, their real commitment is to helping individuals transform their perspective of the world from material to spiritual. It supports the cultivation of a deep collective consciousness of peace and of the individual dignity of each soul.

The Brmhakumaris are a spiritual movement that originated in Hyderabad, Sindh, during the 1930 s. The Brmhakumaris (daughters of Bramha) movement was founded by Dada Lekhraj Kripalani. The organization is known for the prominent role that women play in the movement. It teaches a form of meditation that focuses on identity as souls, as opposed to bodies. They believe the source of all goodness. The organization teaches to transcend labels associated with the body, such as race, nationality, religion and gender and it aspires to establish a global culture based on what it calls "soul consciousness".

The Brmhakumaris believe God's purpose is to be the spiritual re-awakening of humanity and the removal of all sorrow, evil and negativity.

### The Role of Women as Spiritual Leaders

Brmhakumaris is the largest spiritual organization in the world led by women. It was the founder, Prajapita Brmhha Baba, who chose to put women in front from the very beginning, and it has set Bramhakumaris apart on the stage of the world's religions and spiritual organisations. For over 80 years their leadership has been characterized by steady courage, a capacity for forgiveness and a deep commitment to unity.

### Objectives

1. To provide opportunities for women to gain spiritual empowerment.
2. To make women fully aware of their potential and increase men's awareness of women's contributions.
3. To empower women to combat the social evils of obscene literature/films, treatment of women as a sex object, child marriage and the dowry system.

As far as the women empowerment through spirituality is concerned





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## Feminism and literature: A study of Anita Nair's 'Ladies Coupe'

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### Abstract

There is very urgent urge which has to give more attention and that is the complexities of women's life in different cultures and social values and their struggle under the unfair mechanism of screwed society which is very nicely presented in the works of Anita Nair. Anita Nair paints her women as they are, with their defenses down, ready to open their heart to other women. The predicament of her characters is covered with a faint existential hue. They struggle for freedom, are aware of their absurd situation, feel stifled in it and try to find an answer to the very mystery of their existence in a society that does not understand them. They all finally come to their conclusions and feel at peace with themselves and their worlds.

The present research paper is an attempt to portray the woman of modern and current modern India as characterized in the novel 'Ladies Coupe' By Anita Nair who is devoted to raise feminist and social issues.

**Key words:** Social Justice, feminism, gender inequality, tradition, modernity.

### Introduction:

Feminism is perhaps the most powerful movement that cleaned literary world in the second half of the twentieth century. It has been expressed differently in different parts of the world, and within India, by different women depending upon their class, background and the level of consciousness and understanding. Main focus of feminism stands for liberation and liberation of women from all forms of domination by the state, by society and by men. Anita Nair thoroughly testifies all the above-mentioned elements in her novels. Feminism is a progressive ideology, a mission and a movement that champions male and female equity. Feminism in India is not an artificial or duplicate of the west and feminism is not an anti-marriage, anti-men movement imported from the outside or any anti-social act which is against the society, but it is an art and science of the development of women in various challenging environment, it is fight for the existence of the women for the freedom and equal human rights. Feminism is a philosophy and an undertaking for ending all forms of domination. It is not against family and marriage. It is all about transforming these institutions to weed out their integral injustices. Indian feminism has thus its own elements and character which are developed as the times have passed with the more experience. (htt31)

The present research work attempts to explore and analysis of Anita Nair's 'Ladies Coupe'

### Aims and objectives

1. To study critically Anita Nair's novel 'Ladies Coupe'
2. To Study the women characters portrayed by Anita Nair from feminist perspective.



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## Impact of online teaching on college students due to Covid-19

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### Abstract

As we know from 11<sup>th</sup> March, 2020, World health Organization has declared covid-19 as a global pandemic. To prevent the spread of corona virus and as a precautionary measure many countries have declared lock down. The government of India had imposed a public curfew on March 22, 2020. Preventive measures have been taken to prevent the spread of the corona virus by announcing a 21-days lockdown. On 14<sup>th</sup> April 2020, the Government of India again declared a lockdown till 3<sup>rd</sup> May 2020. Almost all fields including education got affected due to Lockdown. Most of the Governments around the world have temporarily closed all the schools, colleges and universities to control the spread of covid 19 pandemic. As a result, the Corona epidemic has had a major impact on the education sector as well. Since schools and colleges are closed, and to avoid the academic loss of the students governments of all the countries have decided to engage students virtually and has developed new technology through which students can able to take online education. Various options made available through the platforms like e-vidya, Swayam, e-pathshala, zoom, and Google – meet in this way virtual/online education has started. Being a researcher few questions raised in mind that

1. How many students get benefited from online teaching?
2. What is the impact of online Teaching?
3. What difficulties they face while taking online teaching?

Researcher has taken a survey and tried to find out the answers to these questions which are reviewed in this paper.

**Key words:** Corona epidemic, Online Teaching.

### Introduction:

After the World War II covid -19 pandemic is the biggest crisis. The crisis has affected almost all the aspects of human life and as no preventive measures have yet been found, efforts are being made in all countries to control the disease, depending on the lockdown policy. Due to this crisis the global and national economies gets deteriorated day by day and financial health gets affected and resulted into recession and the unemployment cycle. Many countries have also closed educational institutions to prevent corona. Corona is currently considered to be a health problem but it is also important to note that due to this crisis field of education has to suffer and face various problems. In rural areas 36% of the population and in urban areas 64% of the population is using the internet. The number of internet users in rural areas is still not increasing. Therefore, online education does not seem to be convenient in rural areas. The researcher in her paper has studied and takes a survey of, what is the effect of online education on students?







**महिला सबलीकरण: शासकीय उपाय — योजना एक अभ्यास**  
**डॉ. अनुजा वि. गावडे** **डॉ. सीमा अ. बागुल**  
**अमृतेश्वर आर्ट्स, कॉमर्स अँड सायन्स कॉलेज विंझर.**

गोषवारा:

स्त्री आणि पुरुष हे निसर्गाचे घटक असून समाजाचेही ते अत्यावश्यक घटक आहेत. समाज व्यवस्थित चालण्यासाठी दोघांची आवश्यकता असते. व्यक्तीच्या सर्वांगीण विकासात पुरुषांच्या बरोबरीने स्त्रियांनाही समान हक्क आहेत. संयुक्त राष्ट्रसंघाच्या (युनो) मानवी हक्क सनदेत सर्वांना समान अधिकार बहाल केलेले आहेत. या महिला हक्कांना अनुसरूनच भारतात महिला आयोग कायदा 1990 मंजूर करण्यात आला. महिलांमध्ये सामाजिक, आर्थिक व राजकीय जागृती घडवून आणणे तसेच त्यांना सामाजिक न्याय मिळवून देणे हा उद्देश त्यामागे आहे.

स्त्रियांना पुरुषांच्या बरोबरीने विकास व प्रगतीच्या समान संधी उपलब्ध करून देणे हे खरे स्त्रियांचे सबलीकरण होऊ शकते. लिंगभेदाच्या बर आधारित विषम समाज व्यवस्था तयार करून समतेच्या तत्वावर आधारित व्यवस्था सबलीकरणात अपेक्षित असते. त्यासाठी महिलांना सक्षम आणि सशक्त बनवण्याच्या दृष्टीने शासनाने देशात व राज्यात महिला सक्षमीकरण व आर्थिक सशक्तीकरणाचे विविध धोरणे, योजना, कार्यक्रम कार्यान्वित केलेले आहेत. महिला सबलीकरणासाठी आंतरराष्ट्रीय पातळीवर प्रयत्न केले गेले आहेत. महिलांच्या सबलीकरणासाठी भारतामध्ये सुद्धा अशा प्रकारचे प्रयत्न केले गेले आहेत. तसेच राज्य पातळीवर महिला सक्षमीकरणासाठी अनेक योजना, धोरणे व कार्यक्रमांची अंमलबजावणी केली जात आहे. सदर पेपर मध्ये महिला सबलीकरणासाठी राष्ट्रीय, देश पातळीवरील व राज्य पातळीवरील कोणते प्रयत्न केले जात आहेत. तसेच महिलांच्या सक्षमीकरणाच्या कार्याची सद्यस्थिती समजावून घेऊन महिला सक्षमीकरण कार्याचा आढावा घेऊन सबलीकरणासाठी त्यांचा सहभाग वाढवण्यासाठी खऱ्या अर्थाने प्रयत्न करणे म्हणजे सबलीकरण होऊ शकते. त्यासाठी प्रस्तुत पेपर मध्ये महिला सबलीकरण संकल्पना, महिला सबलीकरणाचे उद्देश, सद्यस्थितीत व सबलीकरणासाठी केले जाणारे उपाय, प्रयत्न व योजना याचा आढावा घेतलेला आहे.

#### 1. प्रस्तावना:

अगदी प्राचीन काळापासून स्त्रिया सामाजिक व कौटुंबिक अन्यायाच्या बळी ठरल्या होत्या. पारंपारिक भारतीय समाजात तर स्त्रियांना अनेक हक्कांपासून वंचित ठेवण्यात आले होते. परिणामी भारतीय समाजातील दुर्बल व अन्यायग्रस्त घटक अशी स्थिती त्यांना प्राप्त झाली होती. साधारणतः विसाव्या शतकाच्या सुरुवातीपासून स्त्रियांच्या अवस्थेत व सामाजिक स्थानात बदल होऊ लागला. अर्थार्जनासाठी स्त्रिया बाहेर पडू लागल्या आणि त्यातून त्यांना थोडेफार आर्थिक स्वावलंबन लाभले परंतु अजूनही स्त्रियांच्या समस्यांमध्ये दिवसेंदिवस वाढ होत आहे. असे दिसून येत आहे. भारतीय राज्यघटनेमध्ये स्त्री-पुरुषांना समान संबोधण्यात आले (कलम 15) त्यांना पुरुषांच्या बरोबरीने स्थान व दर्जा प्रदान करण्यात आला. स्त्री-पुरुष भेद नाकारण्यात आला. स्त्रियांना घटनेने स्वातंत्र्य, समता, दर्जा व संधी दिली. या सर्व प्रयत्नानंतरही स्त्रियांच्या स्थितीत व्यापक सुधारणा होऊ शकली नाही. लिंगभेद, अत्याचार, शारीरिक व मानसिक हिंसा यासारखे प्रश्न अद्यापही पहावयास मिळतात.

एकविसाव्या शतकात प्रवेश केला तरी स्त्रियांच्या समस्यांमध्ये फार मोठा बदल झालेला आढळून येत नाही. त्यामध्ये गर्भजल चिकित्सा, स्त्री अन्नक हत्या, एकतर्फी प्रेमांमुळे मुलींवरील अत्याचार, काम करणाऱ्या महिलांच्या समस्या अशा नवीन समस्या पहावयास मिळतात. त्यासाठी समाजात स्त्रियांना उपेक्षित ठेवणाऱ्या, वि



## 11. Infrastructure and Factor Conditions for the Development of Potential Tourist Places

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Amruteshwar Arts Commerce and Science College, Vinzar

**Vishali Kadam**

Mamasahab Mohol Jr. College.

### Introduction

Last couple of decade's tourism has become popular global activity. Worldwide people prefer to visit different destinations, whatever may be the reason. The famous saying by St. Augustine that the world is the book and those who don't travel read only one page of it. This particular quote is self-enough to motivate all to get out of the houses and experience the world. Tourism serves for the betterment of the people. It's the source of foreign exchange, employment generation, and economic growth of the country. India is a vibrant country and is chosen as their favorite destination by the people living in different parts of the world. Gifted with immense potential India have vast cost line, rich biodiversity, dense forest, mighty Himalayas, spiritual, historical, preserved monuments attract people from all over the world. As per the recent data by Government of India tourism in India has increased by thrice as compared to the 1990s contributing 6.8% to India's GDP. It's not only the physical, cultural and historical features which encourages tourism in any of the country or the place, but certainly infrastructure and factors conditions are also equally important parameters of tourism.

Infrastructure of tourism development :- It was Smith (1994) who led the foundation for acknowledging the role of service infrastructure in product experience, he was also of the opinion that lack of infrastructure in any destination are also notable and determine feature that can give improve the tourism experience. Over all tourism visit the destinations and creates the impression and opinion about the infrastructure of the destinations, which in future encourages or discourages tourism of that particular destination. (Dixit, 2015) Crouch and Ritchie (1999), argued that factor conditions are important determinants of attractiveness as tourists travel to a destination to receive the destination experience. The flow of tourist heavily relies on on public



# 1. Impact of Covid-19 on India in Development Perspective

**Prof. Dr. P. S. Kamble**

Department of Economics, Shivaji University, Kolhapur, MS.

## Abstract

The entire World is suffering from Corona pandemic, and India cannot be an exception. India has been suffering from Covid19 infection extensively as well as intensively. But the corona pandemic is a special and dangerous problem for India in many counts such as, it is highly populated, rural dominated, weak health sector especially public, demographic dividend availability, growing economy and many others. It is observed that Covid 19 infection is hard hitting the economic development of India and its sectors, sub sectors and individual economic activities also. The present research paper examines the impact of Covid19 pandemic on India in development perspective and probable policy direction for the revival of the economy and rehabilitation of the society especially labour class, and combating covid19 infection which is growing rapidly and extensively. The covid19 and its lockdown policy has imposed a heavy economic loss, burden, cost and damage to the Indian economy and its different productive sectors and sub sectors. A new economic stimulus package at least 5% of GDP which should be a sector specific like agriculture, industry, service, trade, labour, poor and so on, because the economic stimulus package of the government of India is just 1% of GDP according to the number of individual and institutional experts with more loan component and less proportion of direct transfer of income to the beneficiaries. Once again, the urgent need for development of public health and due cooperation and monitoring of the private health sector requires due and urgent attention by all the center, state and local governments. The citizens of India should behave responsibly and in a disciplined manner along with the honest and sincere implementation of the measures such as safe distancing, mask, face cover, hand wash, sanitizer.

**Keywords:** Corona Pandemic, Covid19 Infection, Development Impact, Economic Development and Growth, Gross Domestic Product (GDP), Economic Stimulus Package, Revival of Economy, Policy Direction



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**Keywords:** Corona Pandemic, Covid19 Infection, Development Impact, Economic Development and Growth, Gross Domestic Product (GDP), Economic Stimulus Package, Revival of Economy, Policy Direction





## 7. A Study of Food Consumption Behaviour at the Time of Covid-19 Pandemic in India

**Dr. Parmeshwar Sambhaji Gadkar**

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### Abstract

The Covid-19 pandemic India undertakes a fully lockdown for almost more than three months. All of a sudden, the lives of Indians were forced to shift in accordance with the regulations issued by government. This change in the lives of Indians can be mirrored by an adjustment in food consumer behaviour that, consequently, brought about a transition in the whole supply chain. This paper gives an overview of the recent changes in consumption patterns that occurred due to the Indian lockdown, and how evolutions in behaviour are intertwined with the evolution of the main food supply chains. Many of the events here depicted are likely to last far beyond the crisis and affect the subsequent evolution of food consumption in India. The Indian retail supply chain successfully adapted to the big shift in consumption. Despite purchases for essential items having increased, no stockout harmed the food security of Indians. Out-of-home consumption moved inside houses giving space to home meal preparation and comfort food. Home delivery has been the most important element in this context, as it boomed during this period, helping laggard consumers fill the digital divide, as it was mostly mediated by e-commerce platforms and instant messaging. It was also the leverage that allowed small retailers and small producers regain their space. This crisis calls for a more sustainable food system that will be increasingly oriented to moving goods rather than people, which will also have relevance in the coming years

**Key words:** consumption, lockdown, food, behaviour

### Introduction

The disruptions in the supply chain occur due to natural calamities and crises. COVID-19 has resulted not only in the global tragedy for human deaths but also touches the economic sectors and activities, including manufacturing, supply chain logistic, etc. (World Health Organization, 2020). Significant consideration has aimed at the strength of the food supply



# Original Article: DTP/SiO<sub>2</sub>: An Efficient and Reusable Heterogeneous Catalyst for synthesis of Dihydropyrano[3,2-c]Chromene-3-Carbonitrile Derivatives

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Shuddhodan N. Kadam<sup>d</sup> | Ajay N. Ambhore<sup>e</sup> | Bhaskar S. Dawane<sup>f</sup>

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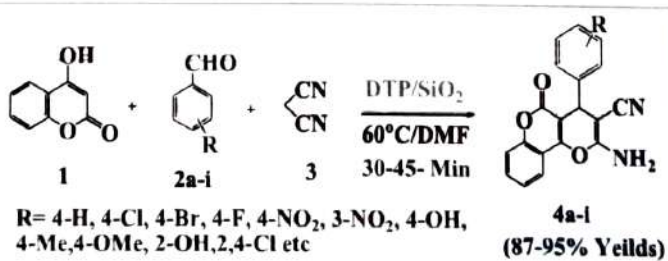
Professor Dr. Abdelkader Zarrouk

## Keywords:

DTP/SiO<sub>2</sub>, green synthesis, dihydropyrano[3,2-c]chromene-3-carbonitrile.

## ABSTRACT

An efficient and convenient method has been developed for the synthesis of 2-amino-5-oxo-4-phenyl-4, 5-dihydropyrano[3,2-c]chromene-3-carbonitrile derivatives from a one-pot multi-component reaction between 4-hydroxy-2H-chromen-2-one. Aromatic aldehydes and malononitrile were catalyzed by DTP/SiO<sub>2</sub> as an efficient and reusable heterogeneous catalyst. The current method provides advantages over reported method viz simple operational procedure, easy isolation and recyclability of the catalyst, environmental benign, reduced reaction time and superior yield.



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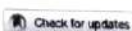




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PAPER

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45, 4632**Metal-free efficient thiolation of C(sp<sup>2</sup>)  
functionalization *via in situ*-generated NHTS  
for the synthesis of novel sulfenylated  
2-aminothiazole and imidazothiazole†**Shuddhodan N. Kadam,<sup>a</sup> Ajay N. Ambhore,<sup>b</sup> Rahul D. Kamble,<sup>c</sup>  
Mahesh G. Wakhradkar,<sup>c</sup> Priya D. Gavhane,<sup>c</sup> Milind V. Gaiwad,<sup>d</sup>  
Krishna Chaitanya Gunturu<sup>a,†</sup> and Bhaskar S. Dawane<sup>a,†</sup>Received 3rd December 2020  
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A direct metal-free approach for the synthesis of novel sulfenylated 2-aminothiazole and imidazothiazole derivatives at room temperature is reported via an *in situ*-generated electrophilic thiolating agent. The present protocol provides mild and selective access for the reaction of C–S bond functionalization with good yield. The mechanistic path was justified via density functional theory (DFT) calculations, which explore the role of the solvent in the reaction mechanism.**Introduction**

The prevalent occurrence of organosulfur compounds in vital biological systems, drug architectures and natural products present themselves as versatile scaffolds in organic chemistry, medicinal chemistry and materials chemistry.<sup>1–3</sup> They constitute an active portion of commercially available drugs.<sup>4,5</sup> These consequences have led to an unending quest for a capable catalytic system, comprising a blend of carbon–sulfur bonds to create organosulfur compounds.<sup>6–14</sup> The majority of reported transformations for C–S bond coupling includes the syntheses of diaryl sulfides using imidazotheterocycles,<sup>15–20</sup> indoles<sup>21–25</sup> or aryl halides<sup>26–29</sup> by reaction with thiols or thiones. Several catalytic systems utilized for the cross dehydrogenative coupling reaction (CDC) of the C–S bond include the use of transition metals,<sup>30–34</sup> elemental sulfur,<sup>35–39</sup> and iodine.<sup>40–44</sup> Amongst these protocols, those capable of encountering direct metal-free regiospecific C–S bond coupling in bifunctional motifs for the selective synthesis of heterocyclic organosulfur compounds are highly desirable.<sup>45–50</sup> Moreover, among numerous catalytic systems reported for the synthesis of organosulfur compounds, the use of *N*-halosuccinimides was proven to be a highly useful

approach,<sup>51–53</sup> however, *N*-halosuccinimides have a general tendency to sulfide secondary alcohols to their corresponding ketones.<sup>54–56</sup> In recent years, the use of *N*-sulfarylsuccinimides for the direct sulfenylation of aromatic and heteroaromatic C–H bonds has become an interesting strategy.<sup>57–73</sup> Very few reports are available for the synthesis of catechol dithioethers.<sup>75–77</sup> However, the selective synthesis of organosulfur compounds has not been reported hitherto via *in situ*-generated *N*-(heteroarylthio)succinimide (NHTS), by utilizing *N*-halosuccinimide and heterocyclic thiols such as 111-benz[*d*]imidazole-2-thiol, benz[*d*]oxazole-2-thiol and 5-(pyridin-4-yl)-1,3,4-oxadiazole-2-thiol. The use of these heterocyclic thiols may impart advantages in the areas of small molecule syntheses as well as pharmaceuticals as imidazothiazole and thioamides are considered to possess a broad spectrum of biological activity.<sup>78–80</sup> Consequently, the selective C–S electrophilic sulfenylation of pseudo aromatic imidazothiazoles with secondary alcohols may provide a beneficial synthetic route for medicinal chemistry research. Jie *et al.* have reported the organocatalytic sulfenylation of β-naphthols using *N*-(arylethio)succinimide as the sulfur source, and they have observed that the dearomatization of β-naphthol takes place with the oxidation of an alcoholic group to a ketone (Scheme 1).<sup>78</sup>

Nevertheless, alcohols also possess the propensity to react with thiols to generate thioethers in the presence of certain catalytic systems.<sup>81–89</sup> These annotations and our previous study regarding the synthesis of bioactive compounds<sup>92–95</sup> have provoked us to focus on the development of a new catalytic system for the selective C(sp<sup>2</sup>)-H bond thiolation of 2-aminothiazoles and imidazothiazoles using heterocyclic thiols and *N*-halosuccinimide.

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## Short communication

## A Short Synthesis of Carbazole Alkaloids Murrayanine and Mukonine

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## ABSTRACT

The short, easy and total synthesis of Murrayanine (1), Mukonine (2), carbazole alkaloids were elaborated, based on a regioselective buchwald coupling of methyl 4-bromo-3-methoxybenzoate with aniline and successive transformation into the corresponding carbazole alkaloids by oxidative coupling followed by cyclization of the phenyl and aryl rings.

## KEYWORDS

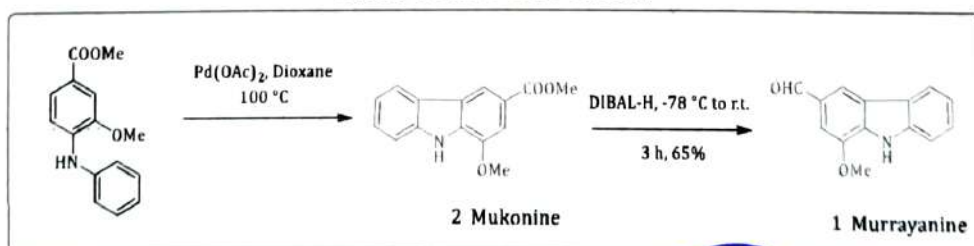
Carbazole alkaloids

Mukonine

Murrayanine

Buchard coupling

## GRAPHICAL ABSTRACT



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## A Note on Conditional Edge Connectivity of Hypercube Networks

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Let  $G$  be a connected graph with minimum degree at least  $n$  and let  $h$  be an integer such that  $0 \leq h < n$ . The conditional  $h$ -edge ( $h$ -vertex) cut of  $G$  is defined as a set  $F$  of edges (vertices) of  $G$  whose removal disconnects  $G$  leaving behind components of minimum degree at least  $h$ . The characterization of a minimum  $h$ -vertex cut of the  $n$ -dimensional hypercube  $Q_n$  is known. In this paper, we characterize a minimum  $h$ -edge cut of  $Q_n$ . Also, we obtain a sharp lower bound on the number of vertices of an  $h$ -edge cut of  $Q_n$  and obtain some consequences.

**Keywords:** Hypercube; conditional connectivity; edge cut.

### 1. Introduction

An interconnection network with high fault tolerance capacity is preferable for practical implementation. The fault tolerance capacity of the given network is closely related to the connectivity of the underlying graph. Harary [5] introduced the concept of conditional edge (vertex)-connectivity, which measures the fault tolerance capacity of a network more accurately. Let  $h, n$  be integers such that  $0 \leq h < n$  and  $G$  be a connected graph with minimum degree at least  $n$ . An  $h$ -edge ( $h$ -vertex) cut of graph  $G$  is a set  $F$  of edges (vertices) of  $G$  such that the graph  $G - F$  is disconnected and each component of it has minimum degree at least  $h$ . The conditional  $h$ -edge ( $h$ -vertex) connectivity of  $G$  is denoted as  $\lambda^h(G)$  ( $\kappa^h(G)$ ) and is the minimum cardinality  $|F|$  of an  $h$ -edge ( $h$ -vertex) cut  $F$  of  $G$ . Clearly,  $h = 0$  gives traditional connectivities. The conditional connectivities for various networks have been studied in the literature, see [8, 9, 11–13, 15]. These connectivities are also known as  $R_g$ -connectivities [14].

The Cartesian product of two graphs  $G_1 = (V_1, E_1)$  and  $G_2 = (V_2, E_2)$  is denoted by  $G_1 \square G_2$ . It is the graph with vertex set  $V_1 \times V_2$  and edge set  $\{(x_1, y_1)(x_2, y_2) : x_1$



## २१. आत्मनिर्भर भारत : योजना व नियोजन

प्राचार्य डॉ. संजीव लाटे

अमृतेश्वर कला, वाणिज्य व विज्ञान महाविद्यालय, विंध्य, वा. येरव्हा, जि. पुणे.

### प्रस्तावना

जीडीपी म्हणजे देशाच्या अर्थव्यवस्थेची तथ्ये कशी आहे याचे मोजमाप करण्याचे साधन. देशाच्या अर्थव्यवस्थेत जीडीपी चे स्थान महत्त्वपूर्ण असते. कोणत्याही देशात रोज असंख्य आर्थिक व्यवहार होत असतात याची नोंद जीडीपीमध्ये होत असते. देशाने एका आर्थिक वर्षात किती मालाचे उत्पादन केले व किती सेवा पुरविल्या, याची आकडेवारी जीडीपीमध्ये असते. विविध संस्था या कामात कार्यरत असतात.

आर्थिक वर्षात देशाने जो माल तयार केला व सेवा दिल्या, त्यांना प्राथमिक (शेती आदी), दध्यम क्षेत्र (उद्योग, व्यवसाय आदी) व सेवा क्षेत्र यांत विभागले जाते. अशा वार्षिक उत्पादनाला बाजारी किंमतीने गुणले, की जे उतर येईल ते म्हणजे 'ग्रास डोमेस्टिक प्रोडक्ट (जीडीपी)' अर्थात एकूण देशांतर्गत उत्पादन. जीडीपी ची वाढ हा कोणत्याही देशाच्या आर्थिक प्रगतीचा मापदंड असतो, जीडीपी वाढीचा दर चांगला असेल, तर देशाची अर्थव्यवस्था प्रगती करीत आहे, नागरिकांना चांगले उत्पन्न मिळत आहे, बेरोजगारीचे प्रमाण कमी आहे,

चांगला उठाव आहे, सेवा क्षेत्रातही चांगली मागणी दिसून येत आहे. असा त्याचा अर्थ होतो. योडक्यात, देश आर्थिकदृष्ट्या प्रगती करीत आहे की नाही याचा अंदाज आपल्याला जीडीपी वाढीच्या दरावरून बांधता येऊ शकतो.

कोरोना विषाणूची लागण नियंत्रित करण्यासाठी अवलंबलेली टाळेबंदी देशाच्या आर्थिक वृद्धीदर, उत्पादक क्षेत्रावर, रोजगार आणि बेकारीवर प्रतिकूल परिणाम करते. टाळेबंदीचा अर्थव्यवस्थेवर प्रतिकूल परिणाम झाला त्याचे विश्लेषण करणे आवश्यक आहे. देशाची आर्थिक वृद्धी स्थूल देशांतर्गत उत्पादन (GDP) मध्ये मोजली जाते. सैद्धांतिक दृष्ट्या  $GDP = C + G + (X - M)$  होय. म्हणजेच देशाची आर्थिक वृद्धी ठरविणारे खासगी उपभोग (C) गुंतवणूक (I), सरकारी खर्च (G) आणि निर्यात आयात (X-M) हे घटक किंवा निर्धारक आहेत. रिझर्व्ह बँकेच्या मते, यात खासगी उपभोग खर्चाचा हिस्सा ६० टक्के असतो.

आशिया खंडातील तिसऱ्या क्रमांकाची मोठी अर्थव्यवस्था म्हणून भारतीय अर्थव्यवस्थेकडे पाहिले जाते. २०१९ मध्ये भारतीय अर्थव्यवस्था २.७ ट्रिलियन डॉलर्सची होती; ती २०२५ पर्यंत ५ ट्रिलियन डॉलर्स होईल असा अंदाज आहे त्यासाठी विकास दर ९ टक्क्यापेक्षा जास्त ह्या, सध्या देशाचे दरडोई उत्पन्न १८०० डॉलर आहे. ५ ट्रिलियन डॉलर्स झाल्यास दरडोई उत्पन्न ३६०० डॉलर्सपर्यंत जाईल. (विकसित देश म्हणजे ज्या देशाचे दरडोई उत्पन्न १२००० डॉलरपेक्षा जास्त), २०१५-१६ मध्ये भारताचा विकासदर ८.२





राष्ट्रीय उच्चतर शिक्षा अभियान (गुणा) व उच्च शिक्षणातील गुणवत्ता  
प्राचार्य डॉ. मंजीव स्वाटे

अमृतेश्वर कला, वाणिज्य व विज्ञान, महाविद्यालय धिप्र, ता. वेल्हा, जि. पुणे पिन-४१२ २१३.

**प्रस्तावना:**

व्यक्तीच्या सार्वभौमतेचा विकास करण्यासाठी आणि त्याचा समाजहितासाठी उपयोग करण्याकरिता उच्च शिक्षणासारखे दुसरे माध्यम नाही. आयुष्य बदलण्याची शक्ती उच्च शिक्षणात आहे. देश स्वतंत्र झाला, तेव्हा देशात २० विद्यापीठे व ५०० महाविद्यालये आणि त्यात १ लाख विद्यार्थी उच्च शिक्षण घेत होते. यावरून लक्षात येते, की १९५० च्या दशकात कोट्यावधी नागरिकांपैकी लाखभर निमूठभर उच्च नागरिकांचाच उच्च शिक्षणात मत्ता होता. गोरगरीब व मध्यमवर्गीय तरुणांना अशी संधी मिळत नव्हती. उच्च शिक्षण क्षेत्राचे आज चित्र बदलले आहे. गेल्या ७० वर्षांत विद्यापीठांचा संख्या २० वरून १९३ वर गेली तर महाविद्यालयांची संख्या ५०० वरून ४० हजारवर पोहचली आहे. १९५० मध्ये देशात एक लाख विद्यार्थी उच्च शिक्षण घेत होते. आज ३ कोटी ७३ लाख विद्यार्थी शिक्षण घेत आहेत. ज्या देशात महिला, दलित, शेतकरी, मागासवर्गीयांना सामाजिक, धार्मिक कारणाने शिक्षण नाकारले होते, ते आज कोट्यावधीच्या संख्येने उच्च शिक्षण घेऊन देशात व परदेशात कर्तबगारी दाखवताहेत. उच्च शिक्षण लाखो गोरगरीब कुटुंबातील तरुण-तरुणींच्या जीवनात व कुटुंबात आर्थिक क्रांती झाली आहे. उच्च शिक्षण हे सामाजिक परिवर्तनाचे हत्यार मानले जाते. भारतातही ही प्रक्रिया घडते आहे. पण तिला अधिक वेग यायला हवा.

**कायम विनाअनुदान व स्वायत्ततावर भर :**

आपल्या शिक्षण व्यवस्थेत १९८० च्या दशकाआधी अनुदान, १९८० च्या दशकात विनाअनुदान आणि (२०१० च्या दशकात कायम विनाअनुदान धोरणाचा स्वीकार केला परिणामी शिक्षणाला बाजारी स्वरूप आले २००४ साली खासगी विद्यापीठे विधेयक व अध्यादेश आणि खासगी विद्यापीठांच्या स्थापनेस प्रोत्साहन देण्यात आले तर २०११ च्या दशकात स्वायत्त महाविद्यालयावर भर देण्यात आला. थोडक्यात शिक्षण क्षेत्रातील शासन स्वतःची जबाबदारी हळू-हळू कमी करून खासगीकरणावर भर दिल्या जात आहे.

यापूर्वी १९८६ मध्ये राष्ट्रीय शैक्षणिक धोरण लागू करण्यात आले होते. १९९२ मध्ये त्यामध्ये किरकोळ सुधारणा काढता कोणतेही बदल केले नाहीत. म्हणजे तीन दशकांहून अधिक काळ जुनेच शैक्षणिक धोरण चालत होते. ३४ वर्षांत विज्ञान तंत्रज्ञान क्षेत्रात अनेक वैज्ञानिक संकल्पना नव्याने समाविष्ट झाल्या होत्या, परंतु या संगठनापासून आपली शिक्षणपद्धती अनभिज्ञ राहिली. या आधुनिक जगाशी सुसंगत अशी शिक्षण व्यवस्था उदयास येण ही काळाची गरज होती. त्यास अनुसरून तब्बल ३४ वर्षांनंतर आणलेल्या नव्या शैक्षणिक धोरणाला केंद्र सरकारने २९ जून २०२० ला परवानगी दिली आहे. नव्या शिक्षण धोरणातर्गत देशभरात उच्च शिक्षणासाठी एकच नियामक प्राधिकरण अस्तित्वात येणार असून मनुष्यबळ विकास मंत्रालयाचे नाव बदलून शिक्षण मंत्रालय करण्यात आले. नव्या शिक्षण धोरणाची भविष्यातील अंमलबजावणी केव्हा व कशी होईल यावर त्याची यशस्वीता अंमलसंभूत राहिल. २०११ च्या जनगणनेनुसार देशाची सरासरी साक्षरता ७७.७ टक्के, ग्रामीण भागात साक्षरता ७३.५ टक्के तर शहरी भागात सरासरी ८७.७ टक्के साक्षरता आहे. भविष्यात शिक्षण क्षेत्रात भारताला मोठी प्रगती करावी लागणार आहे.

**नाविन्व आणि संशोधनाकडे दुर्लक्ष :**

जगभरातील शिक्षणाचा विचार केल्यास चीन (२९ टक्के) आणि भारत (१२ टक्के) या दोन देशांमध्ये मिळून जगातील तब्बल ४० टक्के पदवीधर दरवर्षी तयार होतात. तर अमेरिका १२, रशिया ७, इंडोनेशिया ६ टक्के, जपान व ब्रिटन ४ टक्के, कोरिया, मेक्सिको व ब्राझील ३ टक्के, स्पेन, तुर्कस्तान १ टक्का, इतर देशात १२ टक्के पदवीधर तयार होतात. भारतात शिक्षण क्षेत्राची संख्यात्मक वाढ होताना दिसून येत आहे; परंतु गुणात्मक वाढीकडे दुर्लक्ष होत आहे.

शिक्षण पद्धती ही संशोधन आणि नवनिर्मितीला प्रोत्साहन देणारी असायला हवी भारतात जीडीपीच्या केवळ ०.६९ टक्के खर्च संशोधनावर केला जातो. इस्राईलमध्ये हे प्रमाण ४.३ टक्के आहे. संशोधनात आणि असलेले लाखो विद्यार्थी परदेशाची वाट धरतात तर आपल्या युवकांचे संशोधन इतर देशांचे पेटंटस होऊन बसत आहे. अमेरिकेत २०१९ मध्ये जगातील एकूण १५.२० लाख परदेशी विद्यार्थी शिक्षण घेत होते त्यापैकी ४८ टक्के विद्यार्थी चीन (४,७४,४९७) व भारताचे (२,४९,२२९) होते; द. कोरिया १.२४ लाख, जर्मनी १.१८ लाख, सीडी ओरबिया ६४ हजार, फ्रांस ६२ हजार, मलेशिया ५६ हजार, व्हिएतनाम ५४ हजार, इराण ५२ हजार विद्यार्थी शिक्षण घेत होते. शिक्षणाच्या माध्यमातून अमेरिका, इंग्लंड, ऑस्ट्रेलिया यासारखे देश अक्रावधी डॉलर दरवर्षी कमवतात. भारतातून चीन मध्ये २०२० मध्ये २३००० विद्यार्थी शिक्षणासाठी गेले; त्यापैकी २१००० विद्यार्थी एमबीबीएसचे शिक्षण घेत होते. अलीकडील काळात रशिया, जॉर्जिया, कझाकिस्तान, मलेशिया, चीन व इतर देशात वैद्यकीय शिक्षणासाठी भारतातून मोठ्या प्रमाणात विद्यार्थी बाहेरच्या देशात जात आहेत. भारतातील सुमारे १० लाख विद्यार्थी परदेशी विद्यापीठांमध्ये शिक्षण घेत आहेत तर भारतातून दरवर्षी सुमारे ३ लाख विद्यार्थी शिक्षणासाठी बाहेर जात आहेत. त्यातुलनेत परदेशातून भारतात शिक्षणासाठी येणाऱ्या विद्यार्थ्यांचे प्रमाण नगण्य आहे; भारतात २०१४ मध्ये ३३ हजार विद्यार्थी तर २०१९ मध्ये १६४ देशातील ४७ हजार विद्यार्थी शिक्षणासाठी आले होते; त्यातील प्रगत देशांचे प्रमाण केवळ २ टक्क्यापेक्षा कमी आहे.





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## नेकच्या चक्रव्यूहात महाविद्यालयांचे मूल्यांकन

प्राचार्य डॉ. संजीव लाटे  
अमृतेश्वर कला, वाणिज्य व विज्ञान  
महाविद्यालय विंझर.  
ता. वेल्हा, जि. पुणे-४१२ २१३

प्रास्ताविक:

व्यक्तीच्या सुप्त क्षमतांचा विकास करण्यासाठी आणि त्यांचा समाजहितासाठी उपयोग करण्याकरिता उच्च शिक्षणासारखे दुसरे माध्यम नाही. आयुष्य बदलण्याची शक्ती उच्च शिक्षणात आहे. देश स्वतंत्र झाला, तेव्हा शिक्षण क्षेत्रात अवघी २० विद्यापीठे व ५०० महाविद्यालये होती आणि त्यात १ लाख विद्यार्थी उच्च शिक्षण घेत होते. गेल्या ७० वर्षांत विद्यापीठांची संख्या २० वरून ९५० हून अधिक झाली आहे. महाविद्यालयांची संख्या ५०० वरून ४१ हजारावर पोहचली आहे. १९५० मध्ये देशात एक लाख विद्यार्थी उच्च शिक्षण घेत होते, आज ३ कोटी ४६ लाख विद्यार्थी उच्च शिक्षण घेत आहेत. देशात उच्च शिक्षणात १८ ते २३ वयोगटातील प्रवेशाचे प्रमाण (जीईआर) २४.५ टक्के आहे म्हणजे याचा अर्थ आजही ७५ टक्के युवकांना महाविद्यालयात जाण्याची संधी मिळत नाही.

उच्च शिक्षणाची संख्यात्मक वाढ व विस्तार जेवढा महत्वाचा, तेवढीच गुणवत्ताही महत्वाची असते. भारतातील बहुतांशी महाविद्यालये व विद्यापीठासमोर गुणवत्ता वाढविणे व ती टिकविणे मोठे आव्हान आहे. देशात उच्च शिक्षणाचा मोठा विस्तार झाला असला तरी गुणात्मक वाढ झाली नाही.

जागतिकीकरणाच्या प्रक्रियेत परदेशी संस्था, कंपन्या अनेक क्षेत्रात मुक्तपणे संचार करू लागल्या आहेत. शिक्षण हे सेवा व्यापाराचा भाग बनत आहे. जागतिक शिक्षण प्रक्रियेत भारत मागे राहिला आहे. जागतिकीकरणात आपली विद्यापीठे व महाविद्यालये जागतिक ज्ञानदानाची दालने बनायला हवीत. आपल्या पारंपारिक विद्यापीठाच्या अभ्यासक्रमात आमुलाग्र बदल केला







## नवीन शैक्षणिक धोरण

प्राचार्य डॉ. संजीव लाटे  
अमृतेश्वर कला, वाणिज्य व विज्ञान  
महाविद्यालय विज्ञान,  
ता. वेल्हा, जि. पुणे-४१२ २१३

### प्रास्ताविक:

यापूर्वी १९८६ मध्ये राष्ट्रीय शैक्षणिक धोरण लागू करण्यात आले होते. १९९२ मध्ये त्यामध्ये किरकोळ सुधारणा वगळता तीन दशकांहून अधिक काळ जुनेच शैक्षणिक धोरण चालत होते. त्या पार्श्वभूमीवर नवे धोरण तयार करण्यासाठी सरकारने टी. एस. आर सुब्रह्मण्यम यांच्या अध्यक्षतेखाली समिती नेमली होती. १९८६ नंतर विविध क्षेत्रात अनेक बदल घडून आले होते, ३४ वर्षांत विज्ञान तंत्रज्ञान क्षेत्रात अनेक बदल, अनेक वैज्ञानिक संकल्पना नव्याने समाविष्ट, परंतु या संगळ्यापासून भारतीय शिक्षणपद्धती अनभिज्ञ राहिली होती. या आधुनिक जगाशी सुसंगत अशी शिक्षण व्यवस्था उदयास येणे ही काळाची गरज होती. तब्बल ३४ वर्षांनंतर आणलेल्या नव्या शैक्षणिक धोरणाला केंद्र सरकारने २९ जुलैला परवानगी दिली. मल्टिपल एन्ट्री आणि एक्सिट सिस्टिम वर धोरण आधारित अमून ५-३-३-४ (पूर्वप्राथमिक, प्राथमिक, माध्यमिक, उच्चमाध्यमिक) अशी रचना असेल. बोर्डांच्या परिक्षेचा वोजा कमी होणार. एकाच वेळी दोन अभ्यासक्रम शिकण्याची मुभा राहणार आहे. सहावीपासून कौशल्य शिक्षण, मूल्यांकन पद्धतीत बदल, भारतीय भाषामध्ये ई अभ्यासक्रम सुरू. नवीन शैक्षणिक धोरणाची तीन-चार वर्षांत टप्पा-टप्पाने अंमलबजावणी केली जाणार आहे. नवीन शैक्षणिक धोरणासंबंधी भारताचे राष्ट्रपती रामनाथ कोविंद यांनी पुढील वक्तव्य केले आहे. "एका दीर्घ व व्यापक विचारविनिमयानंतर नवीन शैक्षणिक धोरण तयार केले" भारताचे पंतप्रधान मा. नरेन्द्र मोदी यांनी नवीन शिक्षण धोरणासंबंधी केलेले वक्तव्य शकतात, एक अभ्यासक्रम निवडला की त्यातच मन मारून कायम राहणे यापेक्षा बदल करावासा वाटला तर शाखा बदलास परवानगी हवीच काळाच्या ओघात कोणताही व्यवसाय, नोकरीत कायम राहू शकत नाहीत त्यामुळे शिक्षण पद्धतीत देखील बदल होणे गरजेचे होते."





## Hypoglycemic and anticataract activity of crude exopolysaccharides of medicinal mushroom *Phellinus badius* on streptozotocin-induced diabetic rats and goat eye lenses respectively

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### ARTICLE INFO

#### Keywords:

*Phellinus badius*  
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### ABSTRACT

*Phellinus badius* is one of the medicinal mushrooms used as folk medicine in Western Ghats of India. Traditionally, the *P. badius* is used in the treatment of diabetes, diarrhea, arthritis, toothaches, as well as tongue and throat related ailments. Therefore, we investigated the hypoglycemic and anticataract activity of *P. badius* crude exopolysaccharides (EPS) in streptozotocin (STZ) induced diabetic rats and Goat eye lens, respectively. The EPS obtained from the submerged mycelial culture of *P. badius* was used for the bioactivity studies. Among various concentrations of EPS administered to diabetic rats, 400 mg/kg dose showed significant hypoglycemic effects, such as the reduction in blood glucose (37.2 %) and increase in body weight (47.4 %) as compared to the control groups. Furthermore, reduction in triglycerides (23.4 %), cholesterol (23.4 %), as well as decrease in the activities of aspartate aminotransferase (33.8 %) and alanine aminotransferase (31.9 %) were also observed. The crude EPS retarded the progression of lens opacification and reduced the risk of cataract formation in sugar administered goat eye lenses. The results suggest that the crude EPS obtained from *P. badius* mycelia can be considered as a potential source for hypoglycemia and cataractogenesis. The LC/MS analysis revealed the metabolic profile of the crude EPS, which could be further evaluated based on bioassay guided fractionation to identify and characterize the active ingredients.

### 1. Introduction

Mushrooms are a part of traditional medicine in Asian countries since time immemorable, especially basidiomycetes, having diverse nutritional, medicinal and pharmacological properties (Nakamura et al., 2004). Various medicinal mushroom, their parts, cellular components and mushroom-derived secondary metabolites are reported for bioactive properties, such as immunomodulatory, anticancer, hepatoprotective, antidiabetic, hypolipidemic, etc., and are therefore explored for their pharmaceutical applicability (Liu et al., 2019; Rathore et al., 2019; Smith, Rowan, & Sullivan, 2002; Valverde et al., 2015; Wasser, 2002).

*Phellinus* is one such genus of medicinal mushrooms belonging to the family Hymenochaetaceae. Vaidya and Bhor (1991) have reviewed '*Phellinus*' and suggested that as many as twelve species of this poroid genus which are used in ayurvedic and traditional medicine. The fruiting bodies and exopolysaccharides (EPS) derived from *Phellinus* species have shown to have bioactive properties and are therefore explored for their pharmaceutical relevance (Hwang et al., 2007; Wang et al., 2015). For instance, they are used to treat allergy, arthritis, diarrhea, diabetes, hepatic disorders, toothaches and other throat-related issues (Kim, Yang, Hur, Das, Yun, Choi, & Song, et al., 2001, 2003, 2010; Sonawane et al., 2013; Zhu et al., 2008). Similarly, several studies demonstrated

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## TIME-DEPENDENT DETERMINATIVE BIOCHEMICAL TRAITS FOR SALT TOLERANCE MECHANISM IN MUNGBEAN (*Vigna radiata* (L.) R. WILCZEK)

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### KEYWORDS

Biochemical response

Cluster analysis

Discriminant analysis

Discriminant partial least squares analysis

Principal Component Analysis

Salt stress

### ABSTRACT

Mungbean is one of the commercially valuable pulse crops. Time-dependent biochemical modulations in the mungbean varieties PKV AKM 12-28 and VBN (Gg)3 exposed to 75, 100, and 125 mM NaCl were estimated, and the results were concluded through multivariate modeling. The cluster analysis gave two fairly distinct clusters that had similar biochemical responses. Results on the principal component analysis suggested that protein content (PC), total phenolic content (TPC), total flavonoid content (TFC), DPPH radical scavenging activity, ABTS radical scavenging activity, proline content (PRC), total free amino acid (TFAA) content, and malondialdehyde (MDA) contents were dominant traits in the shoot as compared to the root. These can be taken as the primary indicators to assess the effect of salt stress on mungbean varieties. The discriminant analysis had identified TFC, MDA, and total sugar content (TSC) as discriminating variables between the roots and shoots. Further, MDA and TFC were identified as discriminating variables under different salt concentrations, and TSC was identified as a discriminating variable at different exposure durations. Discriminant partial least squares analysis further identified optimum biochemical modulations in the shoots of PKV AKM 12-28 and 75 mM NaCl. The salt treatment produced a strong biochemical modulation after 30 and 45 days, which helped plants survive under salt stress. The multivariate approaches efficiently interpreted time-dependent biochemical modulations in shoots and roots of mungbean varieties under salt stress.

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## ON CONDITIONAL CONNECTIVITY OF THE CARTESIAN PRODUCT OF CYCLES

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### Abstract

The conditional  $h$ -vertex ( $h$ -edge) connectivity of a connected graph  $H$  of minimum degree  $k > h$  is the size of a smallest vertex (edge) set  $F$  of  $H$  such that  $H - F$  is a disconnected graph of minimum degree at least  $h$ . Let  $G$  be the Cartesian product of  $r \geq 1$  cycles, each of length at least four and let  $h$  be an integer such that  $0 \leq h \leq 2r - 2$ . In this paper, we determine the conditional  $h$ -vertex-connectivity and the conditional  $h$ -edge-connectivity of the graph  $G$ . We prove that both these connectivities are equal to  $(2r - h)a_h^r$ , where  $a_h^r$  is the number of vertices of a smallest  $h$ -regular subgraph of  $G$ .

**Keywords:** fault tolerance, hypercube, conditional connectivity, cut, Cartesian product.

**2010 Mathematics Subject Classification:** 05C40, 68R10.





## A STUDY OF WELFARE FACILITIES AND ITS EFFECT ON EMPLOYEE SATISFACTION

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### Introduction:-

"Employees welfare is comprehensive term including various services benefit and facilities offered to employees and by the employers. Through such generous fringe benefits the employers make life worth living for employees."

Life was hard for the working class at the beginning of the 20 century. In 1900 survey showed that between 15% and 20% of the population were living at subsistence level worse between 8% and 10% of population were living below subsistence level. Among all the resources of production employee is one of the most important functions of production. In it was possible that by hook and crook we can handle our work force, but today situation is totally different. Human being is not just like a machine, they have their emotions, feelings, likes and dislikes also. They do not work only for salary and wages. So satisfaction derived from their job as very important. Job satisfaction is one of the important aspects of HRM. Now days, so many organisation are giving welfare facilities to their employees. Because it is related to their satisfaction. If employees giving various welfare facilities their families is satisfied and overall employee satisfaction increasing. Motivated employees may do better.

The basic purpose of employee welfare is to enrich the life of employees and keep them happy and contented. Employee welfare measures motivate the employees for the better performance, it also improves the human relationship and thereby it increases the job satisfaction of the employees. Job satisfaction is a multifaceted concept. It is integral component of organisational climate and it is important element in the management of employee relationship. Therefore the research objective is to study the impact of employee welfare measures on job satisfaction.

**Keywords:** Employee Welfare, Job satisfaction, Organization

### Meaning and Definition:

"Employee welfare is comprehensive term including various services, benefits and facilities offered to employees and by the employers. Welfare including anything that is done for the comfort and improvement of employees and provided over above the wages"

"Job satisfaction means a fulfilment or enjoyment that a person derives from their job". Employee welfare is very close relation to employee satisfaction because welfare helps in keeping the moral and motivation of the employees high so as to retain the employees for longer duration. Welfare include monetary but also many kind forms. Monitoring of working conditions creation of industrial harmony through infrastructure for Industrial relations and insurance against disease, accident and unemployment for the workers and their families.

### Review of literature:-

"According to mark Columbus, in his study welfare facilities toward shoe makers in Chicago'1964. specifies that welfare measures is one of the most important factors for the overall well-being." satyanarayan and redid (2012) stated that the overall satisfaction levels of employees about welfare measures in the organisation cover is satisfactory .however a few are not satisfied with welfare measures provided by the organisation. therefore it suggested that the existing welfare measures may be improved further. Such welfare measures enrich the







## DECLINE THE VALUE OF RUPEE AND ITS EFFECT ON INDIAN ECONOMY

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### ABSTRACT:

*Rupee fluctuation has suited the trending issue in Indian country at this time a day. Decline in the treasure of rupee in evaluation to dough in the carry-on little months has exaggerated the reduction to a bigger extent. nearby has been around 16% decline in the rupee price in after everything else nine month. During carry on one day rupee estimate has been declined a number of period and on October 9, 2018 it reached every single one-time buck at 74.39. The decline in the currency use has publicized stout and hefty refusal effect on the numerous sectors. in addition, the adjunct of India on imports and larger financial and in progress tally shortage adversely precious the economy. To fetch stability in the rupee, help management and coldness slope is enchanting more than a few steps. This rag tries to explore the causes and force of rupee downgrading on the Indian reduced and too tries to reassess the events full by diffidence border and rule to manage up with this problem.*

### I. INTRODUCTION:

Currency fluctuation is the product of on the edge switch over value which has been adopted by numerous most important countries. The swap scale refers to the tempo at which currency of one country bottle be converted into the currency of an additional country. It is and acknowledged as distant swap rate, forex rate. near are two types of chat rate; one is hard and fast conversation time even as the anymore is irrelevant switch rate. cast-iron fee refers to the rank which corpse recurrent and does not swing outstanding to law making intercession bit the unpredictable appraise changes the assess of currency endlessly specifically like carve up market. authority intervenes individual as soon as here is to boot a lot modification in the appraise of currency or the state demands. Till 1973, India second-hand to grasp set argument figure but from 1973 India has plus adopted the balanced switch degree system. right and proper to this hanging switch over cost system, Indian currency is changeable continuously. In the economic day 2018, the Indian rupee estimate has declined around 16% and reached the buck treasure of rs.74.39 apiece dollar. The major logic of decline in the rupee assessment are full to be US CHINA trade war someplace US has forced a massive tariff of approximately \$300billion on the export food of china. a number of other factors furthermore shape the amount of the rupee in an assortment of ways. Experts gain prearranged separate judgment for the drop in the appreciate of the currency, selected points towards the up impression though approximately sys depressing collision of currency on economy. This lecture tries to come across out the right mind of downgrading in rupee amount and achievable events to check or foil it.







## **ANTI-COLONIAL SOCIO-ECONOMIC MOVEMENT OF TRIBAL IN INDIA**

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### **ABSTRACT**

*The firm of gravity industries, construction of dams and launching of enhancement devices in ancestral zones has necessitated dislocation of native population. Thousands of ancestral families were displaced from their fixed habitats connection situations with outsiders arrange been by the same token detrimental. Those who may possibly acquire gain of new lucrative and instructive frontiers were capable to top their lot, little a portly slice of the tribal, not adequately organized to agreement with new challenges, progressively depressed into poorer sections of the society. In this article analyse against fiscal and gathering disparities, ancestral grasp raised a collective voice.*

### **I. INTRODUCTION:**

The tribal of India, like Other common groups, participated in the anti-colonial movement. The ethnic anti-colonial schedule were of two types: first, the engagements against their oppressors i.e. landlords, money-lenders, traders, thekedars (contractors), direction officials and Christian missionaries and second, the arrangements which were associated to and merged with the Indian, state movement. The initially print of appointments container be termed as anti-colonial as these engagements were directed against folks' lessons which were the innovation of British colonialism and who collaborated with the tribal. These lessons were measured outsiders by the tribal. According to a quote in attendance were other than 70 ancestral revolts over a interlude of 70 living (1778 to 1948). These revolts were anti-colonial in not to be trusted degrees. Against economic and social disparities, they have raised a collective voice.

### **II. OBJECTIVE:**

1. the socio-economic situation of the tribal during the grand epoch
2. bearing of the British policies on the tribal
3. the clannish actions which were against colonial exploitation and oppression

### **III. SOCIO-ECONOMIC PROFILE OF THE TRIBALS DURING THE COLONIAL PERIOD:**

Rural India had been inhabited by the ethnic people from the beginning. The clannish communities lived in family member privacy and isolation for centuries and in unreliable states of economy. In bad feeling of their contacts with the non-tribal, they maintained their break away identity. each one ethnic population maintained it acknowledge socio-religious and cultural go and its following and monetary organisations. Until the arrival of the British in the ancestral areas, the foremost way of





## **FOOD PROCESSING INDUSTRY IN INDIA: AN EXPORT ORIENTED SECTOR**

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### **ABSTRACT**

*Indian fare handing out industriousness is primarily export oriented. With the export advance percentage of around 15%, its reveal in the intercontinental marketplace is single 1.7%. Again, no more than 2% of the entire foodstuff fashioned in India is processed for extend consumption. This is a be significant of item that even though immense potential, this sector cadaver grossly underutilized. Against this background, the in-attendance term paper aims to investigate the export outlook of Indian cuisine giving out industriousness laying focus on its trends, the harms it faces and probable corrective events to do its extraordinary potential. swelling duty he inflicted with been calculated next the finest fixed trend. discovered Symmetric Comparative lead guide has been old to degree the Comparative benefit of Indian processed chow export.*

### **1 INTRODUCTION**

Liberalization of trade resulted in a fast transformation of the export and import situations in the on the increase countries. Specially, W.T.O brought the opportunities for countries to cultivate and become conscious their export potential. India's admiration of the treaty on cultivation resulted in variation in levels of comparative improvement for many agricultural properties exported in the total markets. Structural changes in the symphony of agricultural trade were moreover practical in the planet market. fixed rations export has been progressively replaced by processed chow export. India is the second prevalent producer of food, hardly behind China. Earlier, the behaviour of cooking doling out sector in India were primarily restricted to the chow preservation, packaging and transportation. However, over the years, with the materialization of new markets and technologies, the sector has completed its scope. It has in progress producing numerous new matters like make plans for

DR. MAHADEV DATTU DONGARE

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## INDIAN TRIBES AND EFFECTS OF GLOBALIZATION

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### ABSTRACT

Globalization has been skilled by innumerable sections of multi-dimensional Indian society, their livelihood, employment, socio-cultural get-up-and-go counting their cultural and devout practices, health, education, women and poor and socially backward sections differently. According to one Anthropological Survey, come to of 4,635 communities are nowadays to be create in India out of which unreserved clannish communities are 732 in number. Tribals in India give to a big extent of cultural and ethnic diversity. The tribes, who assert been predominantly confined to hills and forests, grasp straight away hunted their interest into the regional and state-owned mainstream. The bang of Globalization on clannish communities is involved as they are the ones that evidently pessimistically exaggerated not individual in India but the complete over the world. In the given name of Development, the life, livelihood, civilization and environment of local group has brought under the hot-iron of Globalization. The ancestral method of existence is dictated by the rule of nature. Notwithstanding the detail that the constitution of India has decided countless safeguards to the ancestral communities, they pick up again to stay behind a large amount backward and discriminated groups in India. Cases of dislocation of ancestral community in India control enlarged manifold. This thesis attempts to inspect the essential philosophy, evolutionary history of Globalization and its property on ancestral communities which promote attempts to prominence on a want to build up the elite policies and models to cater the differences between the Haves and Have-nots in the shadow of Globalization to begin the doctrine of judge of ruling and untreated acceptability to demonstrate the sunlit to individuals who are ceaselessly terrified in the darkness.

### I. INTRODUCTION

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## **PACKAGING INDUSTRY IN INDIA: A KEY ROLE IN ECONOMIC DEVELOPMENT**

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### **ABSTRACT**

*Packaging conscientiousness has key for mushroom the marketing lock up in Indian market. In achieving the deal of the product, the packaging has to besides save from harm the product, not merely from transit and bodily damage, but additionally from microbial and bacterial corrosion as good as climatic hazards, like heat, cold, moisture, ice etc. In this role, exceptionally with acknowledge to fodder product, packaging knowingly reduces the depletion of rations during the transit journey. Packaging be obliged to and identify, trace and mark out the product. patrons are at this time other than still conscious of manufactured goods bookshelf lives, item for consumption traceability to the packer / invention originator, enabling in force artifact ability to remember in instances anywhere outcome integrity is questionable. manufactured goods packaging acting quite a lot of notable functions which allow retail and trade. The functions of modern-day packaging exit beyond containing, defensive and preserving products. It furthermore includes functions to communicate, promote and implement products. Packaging provides numerous intuitive cues intended to impinge on patrons 'perception of the result and talk into their behaviour. This diligence in performance a imperative character in manufacturing sector in Indian economy.*

### **1 INTRODUCTION**

There are approximately 7 billion individual beings on the globe and if one is utterly far-off from new civilization, one is constantly touched by packaging in more or less road or the other. a few inhabit may not be alert of the monetary denomination of packaging, basically

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## SCRUTINY OF CORPORATE FRAUDS IN INDIA FROM ETHICAL PERSPECTIVE

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### ABSTRACT

*Business ethics is of overriding meaning as loads of principal organizations are constant to be spoiled by embarrassment of scandals and frauds. Corporate frauds answer in slaughter of bazaar capitalization and sort image of the organizations. They are distressingly prevalent across countries, and across sectors of the economy. This conceptual broadsheet highlights more or less of the key corporate frauds since liberty and their repercussions on shared and fiscal fabric of India. Keeping sustainability as a fulcrum, it attempts to hint at steps that companies tin and duty adhere for management their businesses decently and in that way minimizing, if not eradicating the corporate fraud.*

#### 1. INTRODUCTION:

Section 17 of the Indian bond perform defines "Fraud" as "Fraud" way and includes any of the next acts committed by a whoop it up to a contract, or with his connivance, or by his agents, with intent to lie to a further organization thereto his agent, or to induce him to go into into a contract. Corporate Fraud as definite by CIMA (Chartered Institute of Management Accountants) is 'a category of fraud that broadly involves by means of cheating to earn delicate addition for oneself corruptly and/or found a shortfall for others'. To outshine cotton on frauds we tin expression at it from something else views. For example, we know how to gaze if a fraud is in-house or outside to the business that was difficult or had gotten tangled with deceptive acts. more or less 75% of corporate surveyed in India felt the on the whole incidence of fraud was raising. For the appearance years, E-Commerce and central processing unit correlated frauds would be of a key concern. (India Fraud give an account Survey, 2010, KPMG). In India, corporate frauds boast a long, chequered history. Ethics include been a grey region in Indian companies for decades. According to a set of circumstances schoolwork by IBS argument increase Center, corporate fraud is a key section of have to do with with not

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## TRIBAL DEMOGRAPHY AND SOCIO-ECONOMIC STATUS OF TRIBES IN INDIA

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### ABSTRACT

*India is developing country in our country in terms of education, industrialization and social growth, but scheduled tribes are found in backward. The social status of tribes is far behind mainstream society. They struggle for survival in forests. Therefore, it is immensely necessary to study and understand population structure and social set up of study area. It gives population change over time and space and it studies the various determinants of population change and the impact of such changes on socio-economic development of area. socio economic development depends on democracy structure. This paper analyses population structure of tribal people who are associated with child malnutrition. Population study for study area is based on census enumeration of 2001 and 2011. Population characteristic of tribal were studied and state-wise parameters like population size, religious composition, tribe combination, population density, growth rate, percentage of tribal population, sex ratio, working population etc have been taken in to account. The variables like growth and density of population, literacy, proportion of non-primary workers and commercialization were important aspect of population.*

### INTRODUCTION

The tribal, in general are endogamous groups sharing common language and culture. They are living under varying geo-ecological setting of hills and forest and far removed from modern convenience of life. The Tribes are the economically backward ethnic group. In India there are a large number of tribal groups and they are food gatherers, hunters, forestland

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## HUMAN RESOURCE AND IMPORTANCE OF SOFT SKILLS: A BRIEF REVIEW

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### Introduction:

The term soft skill refers to a group of skills and personal qualities that present day employers look for and value in their employees. Soft skills relates to excellent communication skills both spoken and written, positive personality traits, social skills and personal attitude. In this sense soft skills complement hard skills, which have to do the technical qualifications. Be academically brilliant and perhaps even have the required work experience, but you will be successful in an organization only if you know for example how to work as a part of team or how to get along with both your senior and junior colleagues. In other word, soft skills are all about how you deal with people.

In short, soft skills are personality traits that determine a person's interaction with others and the ability to be successful at work. Soft skills compliment a person's professional skills and affect his or her performance at work, relationship with colleagues and career prospects. Some important soft skills employers look for in the people they take on our attitude, adaptability, goal setting, motivation, time management, stress management, critical thinking, problem solving, teamwork and leadership.

In this paper I will briefly discuss stress management.

Stress management is a part of all our lives. It is caused when the demands on us physical, mental or emotional are more than what we can comfortably handle. Instead of wishing it away, we should learn to cope with it.

Stress management involves using different techniques to handle stress and prevent it from harming us. If not dealt with stress, affects our health and also our mental functions such as memory, concentration and understanding, which are closely linked to our performance. Some signs of stress are sleeplessness, this exhaustion, loss of appetite or excessive appetite headaches, excessive anger and frequent emotional outburst, restlessness, poor concentration and memory and nervousness.

Managing stress starts with identifying the sources of stress in our lives and finding ways of withstanding pressure and meeting challenges without letting it harm us. We also need to think carefully about our attitudes, habit and way of working in order to reduce the level of stress we experience. We should never turn to healthy ways of handling stress such as smoking, over eating, sleeping too much, behaving rudely, with others or losing our temper without reason and taking dangerous medicines.

So a person should be able to cope up with stress by effective stress management. Effective stress management helps us break the hold stress has on your life, so you can be happier, healthier, and more productive. The ultimate goal is a balanced life with time for work, relationships, relaxation and fun and the resilience to hold up under pressure and meet challenges head on. It is important to experiment and find out what works best for you.

Following are some tips that can help a person to cope up with stress.

1) Identify the source of stress in your life.

Stress management starts with identifying the sources of stress in your life.

- To identify your true sources of stress, look closely at your habits attitudes and excuses.
- Until you accept responsibility for the role you play in creating or maintaining it, your stress level will remain outside your control.







## Best Practices in Librarianship – Services to the Readers : Compilation of Who's who

□ Mokashi Ramchandra Manohar\*

### ABSTRACT

Library profession is a service oriented profession. Readers come to the library to enhance their knowledge. Librarian gives reference to the readers with the help of reference sources available in the library. One such reference tool is Biographical dictionaries and who's who. Many times these are not updated and exhaustive. So, I undertook the project of compiling Who's who of Eminent Punekar. During this study it is observed that who's who as biographical dictionary of important personalities belonging to an institution needs to be compiled.

#### Introduction

Library profession is a service oriented profession. This service is given to varieties of readers with the help of information sources available in the library. The types of the libraries depend upon the types of the readers. There are academic, public, special libraries. The readers of these libraries are different. Therefore, the services to the readers in these libraries are also different. Readers come to the library to enhance their knowledge. The role of the librarian is to serve the readers.

#### Reference Service

According to Dr. S. R. Ranganathan, "Reference service is the process of establishing contact between a reader and his document in a personal way."

#### Dr. Ranganathan's example

Here the example of Dr. S. R. Ranganathan about reference service to legislature can be quoted from A Librarian looks back by Dr. S. R. Ranganathan.

"With the enlarged Legislature Assembly, the session was shifted from fort St. George to Senate House of the university in 1937. This enabled the library staff in establishing relation with the legislators. The first to seek service was the Speaker. He wished to begin meeting of the legislature with a prayer. He asked Dr. Ranganathan to provide information on the practice of beginning

legislature meetings with the prayer in other countries. The reference staff collected and provided the information to the Speaker. This made the speaker to mention to the legislators to use of the University Library for legislative purpose. The Chief Minister who was also the Finance Minister wanted to introduce legislation on sales tax. That was the first time it was thought of in the country. Dr. Ranganathan prepared a documentation list on the subject and sent it to the Chief Minister. With the result, many legislators and officers of the secretariat visited the library to study the documents. Similar help was given to the Revenue Minister when he introduced a bill to amend the Land Estimates Act. Some of the legislators to Dr. Ranganathan that the documentation lists raised the level of parliamentary debates."

#### Librarian and reference service

Librarian gives reference to the readers with the help of reference sources available in the library. One such reference source is Biographical Dictionaries and Who's who. Many times these are not updated. These are also not exhaustive. Comprehensive information is also not given about persons covered in the Who's who. Many times it is observed that Biographies of hundreds of young people are not in these reference tools. Subject wise or field of specialization reference tools are rarely





## ENVIRONMENTAL IMPLICATIONS OF GLOBALIZATION

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### Abstract :

A direct consequence of this phenomenon is the great economic divide between the developing and the developed world. A small section of the global population of a few developed nations has a somewhat exploitative hold over the global natural resource base, and is marginalizing a substrata section of the human population living in the developing world. It is in this context, the whole set of issues linked to 'global change' an ecological phenomenon and globalization-an economic phenomenon-have to be viewed.

### Industrial Revolution : Beginnings of 'Global Change' :

With the advent of industrial revolution and the subsequent rapid industrialization of the western world, wanton destruction of Nature and natural resources set in. Having decimated much of the natural resources of the European countries, attention shifted to the natural resources of tropical region. The period of political colonization of Asia and Africa, which lasted up to the first half of the 20th century, was characterised by exploitation of the rich natural resource base of the tropical, and subtropical regions of the world, to meet the development needs of the then rapidly industrializing western Europe.

Simultaneously, rapid urbanization and pollution related impacts were seen on air, water and soil. These anthropogenic activities led to what is known as 'global change', and have become a cause for worry by the international scientific community.

### Global Change :

The term 'global change' is often confused with 'climate change'. Climate change can be viewed from two different perspectives. One, natural phenomenon, caused through geological events, and as such as beyond human control, two, human-induced climate change brought about through industrial emissions into the atmosphere and the consequent changes in the atmospheric elemental composition. Given the will to take collective global action, the human induced climate change is reversible, may be over the next 50 years or so. There are other changes that are more difficult to reverse.

### Climate change :

Climate change, as already, noted is perhaps the best publicised component of 'global change'. The enhanced 'greenhouse effect', due to trapping of long-wave radiation emitted from the Earth's surface which in turn change the heat balance on the surface, is due to increasing concentration of carbon and nitrogen based gasses (carbon dioxide, methane and nitrous oxide); in this, increased industrial activities are implicated. The precise impact of global warming at local/regional scale is still uncertain, due to the difficulties involved in teasing out natural climatic variability from the observed trends. There is also uncertainty on relating climate change with human influences, as the climate is subject to natural variability, and the difficulties encountered in separating human induced impacts from the climate fluctuations. However, on the basis of evidence gathered, the intergovernmental panel of climate change (IPCC) concludes that human influence affects global climate.

### Possible Implications :

In the Nilgiris of the Western Ghats, increase in the area of evergreen forests due to increased precipitation in some areas, and an increase in dry thorny forest due to increased temperature in other areas is possible. A noticeable decline in dry deciduous forest and a modest decrease in montane / grassland vegetation is also indicated. A similar prediction for Himachal Pradesh suggests shift, shrink or expansion of the distributional pattern of the currently available vegetation types. Increased rainfall in the north-eastern region of India could result in increased



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### Abstract

#### Present Situation and Features of Tourism in India

Today tourism is the largest service industry in India, with a contribution of 6.23% to the national GDP and providing 8.78% of the total employment. India witnesses more than 5 million annual foreign tourist arrivals and 562 million domestic tourist visits. The tourism industry in India generated about US\$ 100 billion in 2008 and that is expected to increase to US\$275.5 billion by 2018 at a 9.4 annual growth rate. The Ministry of Tourism is the nodal agency for the development and promotion of tourism in India and maintains the "Incredible India" campaign.

According to World Travel and Tourism Council, India will be a tourism hotspot from 2010-2020, having the highest 10-year growth potential. As per the Travel and Tourism competitiveness Report 2009 by the World Economic forum, India is ranked 11th in the Asia Pacific region and 62nd overall. Moving up three places on the list of the world's attractive cultural resources, with many world Heritage sites, both natural and cultural, rich fauna, and The India travel and tourism industry ranked 5th in the long-term (10 year) growth and is expected to be the second largest employer in the world by 2019.

Moreover, India has been ranked the "best country brand for value-for-money" in the Country Brand Index (CBI) survey conducted by *Future Brand*, a leading global brand consultancy. India also claimed the second place in CBI, s "best country brand for history" as well as appears among the top 5 in the best country brand for authenticity and art & culture, as well as appears among the top 5 in the best country brand for authenticity and art & culture, and the fourth best new country for business. India made it to the list of "rising stars" or the countries that are likely to become major tourist destinations in the next five years, led by the United Arab Emirates, China, and Vietnam. [[www.ibef.org/industry/tourismhospitality.aspx](http://www.ibef.org/industry/tourismhospitality.aspx)]

**Tourist Attraction in India:** India is a country known for its lavish treatment to all visitors, no matter where they come from. Its visitor-friendly traditions, verified life style and cultural heritage and colorful fairs and festivals held abiding attraction for the tourists. The other attractions include beautiful beaches, forests and wild life and landscape for eco-tourism; snow, river and mountain peaks for adventure tourism; technological parks and science museums for science tourism; centers of pilgrimage for spiritual tourism; heritage, trains and hotels for heritage tourism. Yoga, ayurveda and natural health resorts and hill stations also attract tourists.

The Indian handicrafts particularly, jewellery, carpets, leather goods, ivory and brass work are the main shopping items of foreign tourists. It is estimated through survey that nearly forty per cent of the tourist expenditure on shopping is spent on such items.

Despite the economic slowdown, *Medical tourism* in India is the fastest growing segment of tourism industry, according to the market research report "Booming Medical Tourism in India" low cost scale and range of treatments provided in the country add to its attractiveness as a medical tourism destination.

**Growth of Tourism in India:** The growth of tourism in India can be discussed on the following grounds:

**Foreign Tourist Arrivals:** The large number of tourists is visiting India from various countries as are shown with help of following table 1.1. It is clear from the table that since 1991 the number of foreign tourist arrivals in India is constantly on rise. Though there was a little drop in the year 2009 as foreign tourist arrivals were 5.11 million as against 5.28 million in 2008 but again in the year 2010 the number of foreign tourist arrivals picked momentum and were noted as 5.78 million and 6.29 in the year 2011.







## Existence of 3-regular subgraphs in Cartesian product of cycles

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## Abstract

Let  $G$  be a graph obtained by taking the Cartesian product of finitely many cycles. It is known that  $G$  is bipancyclic, that is,  $G$  contains cycles of every even length from 4 to  $|V(G)|$ . We extend this result for the existence of 3-regular subgraphs in  $G$ . We prove that  $G$  contains a 3-regular, 2-connected subgraph with  $l$  vertices if  $l = 8$  or  $l = 12$  or  $l$  is an even integer with  $16 \leq l \leq |V(G)|$ . For  $l \in \{6, 10, 14\}$ , we give necessary and sufficient conditions for the existence of such subgraphs in  $G$ .

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**Keywords:** Cartesian product; Hypercube; 3-connected; 3-regular; Bipancyclic

## 1. Introduction

All the graphs under consideration are simple, finite and undirected. The Cartesian product  $G_1 \square G_2$  of two graphs  $G_1$  and  $G_2$  is a graph with vertex set  $V(G_1) \times V(G_2)$ , where any two vertices  $(u_1, u_2)$  and  $(v_1, v_2)$  are adjacent if  $u_1 = v_1$  and  $u_2$  is adjacent to  $v_2$  in  $G_2$ , or  $u_2 = v_2$  and  $u_1$  is adjacent to  $v_1$  in  $G_1$ . The  $n$ -dimensional hypercube  $Q_n$  is the Cartesian product of  $n$  copies of the complete graph  $K_2$ . A  $k$ -array  $n$ -cube is the Cartesian product of  $n$  cycles each of length  $k$ . Thus the 4-array  $n$ -cube is the hypercube  $Q_{2n}$ . The hypercubes,  $k$ -array  $n$ -cubes, and the Cartesian product of cycles are popular interconnection network topologies (see [1–3]).

In this paper, we consider only Cartesian product. Therefore we will call the Cartesian product simply as product. A graph  $G$  is bipancyclic if it contains a cycle of every even length from 4 to  $|V(G)|$  and  $G$  is pancyclic if it contains cycles of every length from 3 to  $|V(G)|$ . The pancyclicity and bipancyclicity of a given network is an important factor in determining whether the network topology can simulate rings of various lengths. The connectivity of a network gives the minimum cost to disrupt the network and is an useful parameter in fault tolerance. The hypercube  $Q_n$  is an  $n$ -regular,  $n$ -connected bipancyclic graph whereas the product of  $n$  cycles is a  $2n$ -regular,  $2n$ -connected, bipancyclic or pancyclic graph (see [1,4]). Regular subgraphs, bipancyclicity and connectivity properties of hypercubes and the product of cycles are studied in [1,3,4,5–11].

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## Computational Biology and Chemistry

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## Research Article

## Design, synthesis and in silico study of pyridine based 1,3,4-oxadiazole embedded hydrazinecarbothioamide derivatives as potent anti-tubercular agent



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## ABSTRACT

Development of novel, safe and effective drug candidates combating the emerging drug resistance has remained a major focus in the mainstream of anti-tuberculosis research. Here, we inspired to design and synthesize series of new pyridin-4-yl-1,3,4-oxadiazol-2-yl-thio-ethylidene-hydrazinecarbothioamide derivatives as potential anti-tubercular agents. The anti-tubercular bioactive assay demonstrated that the synthesized compounds exhibit potent anti-tubercular activity (MIC = 3.9–7.81 µg/mL) in comparison with reference drugs Rifampicin and Isoniazid. We employed pharmacophore probing approach for the identification of CYP51 as a possible drug target for the synthesized compounds. To understand the preferable binding mode, the synthesized molecules were docked onto the active site of Sterol 14 α-demethylases (CYP51) target. From the binding free energy of the docking results it was revealed that the compounds were effective CYP51 inhibitors and acts as antitubercular agent.

## 1. Introduction

In the current state-of-the-art, rapidly emerging multidrug resistant (MDR) pathogenic microorganisms has exerted crisis on the human health (Yuan et al., 2017). It is the leading cause of death in the world and a huge burden on the developing countries. Tuberculosis (TB) is one of the peril disease. It is caused by a pathogenic bacteria *Mycobacterium tuberculosis* (*Mtb*) (China Raju et al., 2011). Dreadfulness of this disease is clarified by the Global Tuberculosis report of WHO which predicted that near about 1.8 million deaths occur due to TB and 10.4 million new TB infected cases were notified in 2015 (WHO, 2016). Experimental settings have demonstrated that TB forms granulomatous lesions, consisting of clusters of infected macrophages and fibroblasts with T lymphocytes and B lymphocytes which are utilized by *Mtb* to evade annihilation by the immune system of the host (Clark et al., 2017). Such behavior of *Mtb* leads to adverse effect on the host's immune system that increase the chances of acquiring a HIV co-infection (Mekonnen et al., 2015). This was also explained by WHO (2016) that

near about 55% TB patient were documented HIV positive (Karabanovich et al., 2014). The management of this disease is again complicated due to emergence of the multi drug resistance (MDR) and extensively drug-resistant (XDR) strain of *Mtb* (Kamal et al., 2013). The convenient treatment of TB necessarily required long-term regimen due to the non-replicating persistence tuberculosis phenotype (Krishna et al., 2014). It is found that inappropriate treatment generates a harmful effect and makes a significant contribution to the emergence of drug resistant *Mtb* strains (Chauhan et al., 2014). This is apparent and imperative to combat the increasingly frequent drug resistant strain of *Mtb*. To address these needs, it has been a major task for chemists to enlarge their attitude towards the modification of available clinical drugs with new molecular scaffolds possessing potential activities against MDR strain.

Hydrazinecarbothioamides are recognized as one of the most competent biological promoters owing to nitrogen and sulfur donors, which equip them to bear an enormous diversity of coordination modes (Ali et al., 2009). Hydrazinecarbothioamides are embedded in manifold

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## 16. Geographical Impact on the Health of the People in Different Age Groups, Living in South Konkan Region of Maharashtra

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### Abstract

In this study it's mainly aim to explore the association of geography /environment and health status of people in different age groups. The comparative study was done using different health component fitness test like three minutes step up test, Push up test, sit and reach test. A population based sample of 716 adults from different age groups from Sindhudurga and Ratnagiri district was collected using questionnaires and some health component fitness tests. The data analysis method was done using chi square test. Result Indicate that people in the middle age (46-55) and (35-45) group as compare to elders and Youngers have poor health fitness as per their expected fitness in respective age groups.

**Key Words:** - Health Fitness Components, Three Minutes Step Up Test, Sit and Reach Test.

### Introduction

Since industrial revaluation world has changed a lot. Everyday Science and technology is making human life better and better. Innovations had made life easy: everything is available on click and tip of the fingers. But in the end when people are asked about the very important aspect of their life, without any hesitation the answer comes is the 'Health'. That's why it's always said that 'health is wealth'. Since ancient time till toady, and in the future health will be an imperative part in human's life.

Good thing is that in many parts of the word people are leaving longer and better life, this is only because of medical revaluation and medication. Medicines are available for almost dieses, excluding cancer and some others. Life expectancy has risen, and gap between Birth rate and Death rate has widened. Since mid of the 20<sup>th</sup> century death rate has remarkably fallen in most parts of the world. But today news is not all over positive, life expectance is rising on one hand, medicines are curing almost all dieses but on the other most of the population in world



## 14. Swami Vivekananda's Thoughts on Spirituality and Management Science

**Dr. Yogesh Narhari Shrikhande**

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### Introduction

**Swami Vivekananda** was one of the most important personalities who introduced Indian philosophies like Vedanta and yoga to the western world. He is also the persona that is majorly credited for raising that status of Hinduism as a major world religion during the 19th century. Swami Vivekananda was the great visionary and has presented his thoughts in a simplest form that even a common man can understand. Quotes of Swami Vivekananda act like a lighthouse in the pathway of life. It acts like a panacea for all types of problems that are generally encountered by any common man. It gives motivation and inspiration.

Swami Vivekananda was a great Indian Monk born in Calcutta, Bengal in a typical Bengali family on 12 January 1863. He was the chief disciple of 19th century Indian Mystic Ramakrishna Paramhansa. He is best known for his iconic speech at the Parliament of World's Religions in Chicago in 1893 which began with "Sisters and Brothers of America.". In this speech he introduced Hinduism. Ever since he was young, he was inclined towards spirituality. He was majorly influenced by his guru Ramakrishna Paramhansa from whom he learnt that all living beings are embodiment of the divine self.

After his Guru passed away he traveled across the Indian subcontinent to study the conditions of British India. He traveled to the United States later to represent India in the Parliament of World's Religions in 1893 where he gave a speech introducing the western world Hinduism. He didn't just stop there, but he conducted countless public lectures, seminars and classes where he taught Hinduism and its teachings to the people of US, England and Europe. He was widely known as the patriotic saint and his birthday till today is celebrated in the form of National Youth day.

After Ramakrishna's demise a lot of his disciples stopped following his teachings and opted for a household life when the unpaid rents started piling up. It was at that time that





## 21. Evolving best and Unique Practices in Higher Education Institutes by Autonomous Colleges in Pune City

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### Introduction

Indian educational system is the base for the future of India. It is only educational system of any country that can bring holistic change the face of the country. Especially in country like India education is the tool to bring prosperity. Quality education is utmost need for the entire education system in general and higher education system in particular. Autonomous University/colleges refer to a university/college which exercises independent control over its day-to-day operations and curriculum. It is generally associated with universities, institutions and implies that the sponsoring state does not have control over academic matters of the school. Increasing trend in autonomy has resulted the autonomous colleges to come out with best and unique practices in higher education. The reputation of the autonomous colleges depends upon quality education they are providing and unique practices they are following to develop the international competitiveness amongst students.

Higher education institutes should have action plan and its effective implementation for performance evaluation, assessment and accreditation and quality up-gradation of institution. To take such quality sustenance measures the role of Internal Quality Assurance Cell ( IQAC) is nodal. Thus, the most important goal of IQAC is quality enhancement and sustenance. It includes evolving mechanisms of timely and efficient performance of various aspects of the higher educational institutes like academic, administrative and financial. IQAC is responsible for setting quality benchmark, quality parameters and creation of learner centric environment, which will be supported by proper feedback mechanism and proper documentation.

### Objectives of Study

- 1) To know different best practices of selected autonomous colleges in Pune City





**The Study of Sanjay Gandhi Niradhar Anudan Yojana:  
Administrative and Implementation Perspective with Special Reference  
to Pune District**

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**Introduction:**

In next some years from now India will be the most populated country in the world. Growing population of India has already created many social and environmental problems including unemployment. There are million people unemployed in India which has increased in the destitute and helpless people. A Government of Maharashtra, Department of Social Justice and Special Assistant runs many special assistance schemes for the betterment of people. Sanjay Gandhi Niradhar Yojana is one and important of them.

This scheme was implemented on 2<sup>nd</sup> October 1980 in all over Maharashtra. This scheme is applicable to destitute persons of age below 65 years, orphan children, all types of handicapped, person suffering from critical illness like T. B. cancer, AIDS and leprosy, destitute windows including those of farmers who committed suicide, destitute divorced women and women in process of divorce, women freed from prostitution and outraged women.

On 2<sup>nd</sup> October 2015, Sanjay Gandhi Niradhar Yojana has successfully completed its 35 years. In long journey of 35 years this scheme has faced many difficulties in its implementation. In the meantime government has arranged and provided sufficient fund for the proper implementation of Sanjay Gandhi Niradhar Yojana. Scholar has studied this scheme form the administrative context and its implementation.

It's essential to understand and evaluate the impact of this scheme on the people residing in rural and urban areas. Including this it's necessary to look at the administrative structure implementation of this scheme. Is it implemented properly? Is the question. And that's why the detail study from the administrative context is required for this Sanjay Gandhi Niradhar Anudan Yojana. The entire scheme run by central government funds are transfer to districts through corresponding states. Most of the times the funds are crunched at administrative level resulting beneficiaries not getting benefits. Even in schemes in which funds are directly transferred to district administration from center gets delayed and scheme lost its significance and developmental work get halted or delayed, the best example of this the MNREGA.

Success of any of the scheme depends on the financial provisions made for the particular scheme because very scheme has its own effect. Apart from this implementation of the scheme is goes from different echelons, i.e. from central Government to the state government and further to district administration to the Grampanchayat. It's also necessary to understand how at different administrative levels the funds for the scheme are invested and in what way productive financial preparation are done. Scholar believes that all this needs to be studied and validated apart from this the scheme has political, administrative and economic importance and hence scholar has chosen the topic.







### संजय गांधी निराधार अनुदान योजना – एक दृष्टिक्षेप

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#### प्रस्तावना :

भारतातील सर्व नागरिकांना सामाजिक आर्थिक व राजकीय व न्याय मिळवून देण्याची हमी भारतीय राज्य घटनेत दिलेली आहे. किंबहुना घटनेतील सर्व तरतुदीमागे सामाजिक व आर्थिक न्यायाचे सूत्र अभिप्रेत आहे. सामाजिक न्यायाबरोबर मर्याना आर्थिक न्याय मिळावा. याकडेही घटनाकारांनी खास लक्ष दिलेले आहे. त्यामुळे भारताच्या नागरिकांना त्यांच्या जीवनात स्वातंत्र्याचा अनुभव यायला हवा असेल तर त्यांच्या जीवनावश्यक व मुलभूत गरजा भागविणे गरजेचे आहे. परंतु देशातील लोकसंख्या प्रचंड वेगाने वाढत असून त्या प्रमाणात राष्ट्रीय उत्पन्न वाढत नाही, दिवसेंदिवस गरीबी, दारिद्र्य व बेरोजगारी या समस्या वाढत चालल्या आहेत. त्यामुळे वाढत्या लोकसंख्येला त्या प्रमाणात रोजगाराची संधी मिळत नाही व लोकसंख्येच्या बरोबरच निराधारांच्या संख्येत वाढ होत चालली आहे. अशा निराधारांना गरज असते ती आर्थिक व सामाजिक आधारची. त्यासाठी शासन राष्ट्रीय व राज्य स्तरावर विविध योजनांची आखणी करून अंमलबजावणी करत असते. राज्यातील दुर्बल घटकांची सामाजिक संरक्षण व्हावे, त्यांना जीवन जगण्याचा आधार मिळावा व त्यांना सन्मानाने जगता यावे या हेतूने राज्य सरकारने 'संजय गांधी निराधार योजना' सुरु केली आहे. परंतु त्या योजनांच्या प्रशासकीय सुसूत्रीकरणात व अंमलबजावणीत अनेक दोष अगर उणीवा येत असल्यामुळे यांचे लाभ संबंधितांना मिळत नाही. "संजय गांधी निराधार अनुदान योजना – एक दृष्टिक्षेप" या विषयावर या लेखामध्ये प्रकाश टाकण्यात आला आहे. या योजनेचे अनुदान वेळेवर मिळते का? तसेच वाढती महागाई, प्रचंड स्पर्धा, दारिद्र्य, बेरोजगारी अशा परिस्थितीत ही योजना किती प्रमाणात कार्यक्षमपणे राबवली जाते. या योजनेच्या अंमलबजावणीमध्ये कोणत्या अडचणी येतात. या योजनेमुळे लाभार्थी व्यक्तींच्या राहणीमानात, आर्थिक परिस्थितीत बदल होत आहे काय? हे जाणून घेणे गरजेचे आहे. तसेच लोकांना उदरनिर्वाहाचे साधन म्हणून या योजनेचा किती निराधार व्यक्तींना लाभ झाला हे जाणून घेण्यासाठी संजय गांधी निराधार अनुदान योजनेच्या प्रशासकीय व कार्यात्मक बाबींचा अभ्यास करणे गरजेचे आहे. या योजनेच्या प्रगतीचा शासकीय पातळीवर वेळोवेळी सातत्याने आढावा घेण्यात येतो. परंतु त्यामुळे समाजाचे वास्तव चित्र या पध्दतीने प्रतिबिंबित होत नाही. त्याकरीता सुक्ष्मदर्शी पध्दतीने या योजनेचे कार्यात्मक मुल्यमापन होणे गरजेचे व आवश्यक आहे.

#### योजनेचे स्वरूप:

महाराष्ट्र शासनाच्या 'सामाजिक न्याय व विशेष सहाय्य विभागाच्या विशेष सहाय्य' विभागामार्फत अनेक 'विशेष सहाय्य योजना' राबविल्या जातात, त्यापैकी संजय गांधी निराधार अनुदान योजना एक आहे. महाराष्ट्र शासनाने अपंग, अनाथ, दुर्धर रोगग्रस्त, विधवा स्त्रिया, घटस्फोटित महिला –पोटगी न मिळालेल्या, वेश्या व्यवसायातून मुक्त केलेल्या महिला, ३५ वर्षांवरील अविवाहीत महिला इत्यादींना लाभ देण्यासाठी महाराष्ट्र शासनाने संजय गांधी निराधार अनुदान योजना २ऑक्टोबर, १९८० साली सुरु केली. संजय गांधी निराधार अनुदान योजनेमार्फत निराधारांना दरमहा ६०० रु. अनुदान दिले जाते.



## Evaluation of E-Banking System in India

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### Introduction

Globalization and liberalization have forced the banks to think in terms of technology benefits and quality service to customers as future is full of challenges and survival will be a difficult task. The entry of IT infrastructure in the corporate world of banks has brought with it many innovations, in particular the Internet. Though these changes had started with Narasimham Committee's (1992) suggestions for computerization and were followed by Saraf Committee's (1994) recommendations for electronic fund transfers (EFT), Electronic Clearing Services (ECS) and automatic data capture, the banks were actually required to use the BANKET and RBINET and Internet to accommodate itself to the innumerable transactions that had resulted as a result of globalization and liberalization.

### Objectives :

1. To study of Indian Banking system-
2. To study about new technological changes in banking systems
3. Overview and recent tools in banking systems-

The Indian banking industry is not lagging behind, it has started providing services electronically over the internet. These services rendered over electronic media include:

- ❖ Credit Cards
- ❖ Electronic Fund Transfer EFT -
- ❖ Shared Payment Network System SPNS -
- ❖ Electronic Clearing Service - ECS
- ❖ Point of Sale POS -
- ❖ D - Mat Ac counts
- ❖ Electronic Data Interchange
- ❖ E - Cheques
- ❖ Corporate Banking Terminal
- ❖ Phone banking
- ❖ ATM Automatic Teller Machines



### Information Technology

The traditional system of preparing the account at quarterly, half yearly and annual lost their relevance since the information are constantly up-dated and made available at anytime and anywhere. The information technology enabled the banking organizations to redesign and restructure their functioning.

These services provided by using electronic technology and media are called information technology or electronic banking or e-banking. E-banking has given an opportunity for banks to find solutions to management problems like saving time money and energy or customers by reducing/minimising paper works, waiting in queues, lack of communication and lack of efficiency. E-banking has provided ease and flexibility in banking operations. The recommendations of Narasimham Committee (1998), for the free and liberal entry of foreign banks in India have further improved the scope for e-banking. Therefore, after 1980 throughout the world with majority of banking transactions done through nets or by using information technology. So the information technology solves many problems of the banking industry and very useful to the customers at any convenient time and place. Tele banking has



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## Research Article

# Design, synthesis and in silico study of pyridine based 1,3,4-oxadiazole embedded hydrazinecarbothioamide derivatives as potent anti-tubercular agent

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Hemolytic activity  
Molecular docking

## ABSTRACT

Development of novel, safe and effective drug candidates combating the emerging drug resistance has remained a major focus in the mainstream of anti-tuberculosis research. Here, we inspired to design and synthesize series of new pyridin-4-yl-1,3,4-oxadiazol-2-yl-thio-ethylidene-hydrazinecarbothioamide derivatives as potential anti-tubercular agents. The anti-tubercular bioactive assay demonstrated that the synthesized compounds exhibit potent anti-tubercular activity (MIC = 3.9–7.81 µg/mL) in comparison with reference drugs Rifampicin and Isoniazid. We employed pharmacophore probing approach for the identification of CYP51 as a possible drug target for the synthesized compounds. To understand the preferable binding mode, the synthesized molecules were docked onto the active site of Sterol 14 α-demethylases (CYP51) target. From the binding free energy of the docking results it was revealed that the compounds were effective CYP51 inhibitors and acts as antitubercular agent.

## 1. Introduction

In the current state-of-the-art, rapidly emerging multidrug resistant (MDR) pathogenic microorganisms has exerted crisis on the human health (Yuan et al., 2017). It is the leading cause of death in the world and a huge burden on the developing countries. Tuberculosis (TB) is one of the peril disease. It is caused by a pathogenic bacteria *Mycobacterium tuberculosis* (*Mtb*) (China Raju et al., 2011). Dreadfulness of this disease is clarified by the Global Tuberculosis report of WHO which predicted that near about 1.8 million deaths occur due to TB and 10.4 million new TB infected cases were notified in 2015 (WHO, 2016). Experimental settings have demonstrated that TB forms granulomatous lesions, consisting of clusters of infected macrophages and fibroblasts with T lymphocytes and B lymphocytes which are utilized by *Mtb* to evade annihilation by the immune system of the host (Clark et al., 2017). Such behavior of *Mtb* leads to adverse effect on the host's immune system that increase the chances of acquiring a HIV co-infection (Mekonnen et al., 2015). This was also explained by WHO (2016) that

near about 55% TB patient were documented HIV positive (Karabanovich et al., 2014). The management of this disease is again complicated due to emergence of the multi drug resistance (MDR) and extensively drug-resistant (XDR) strain of *Mtb* (Kamal et al., 2013). The convenient treatment of TB necessarily required long-term regimen due to the non-replicating persistence tuberculosis phenotype (Krishna et al., 2014). It is found that inappropriate treatment generates a harmful effect and makes a significant contribution to the emergence of drug resistant *Mtb* strains (Chauhan et al., 2014). This is apparent and imperative to combat the increasingly frequent drug resistant strain of *Mtb*. To address these needs, it has been a major task for chemists to enlarge their attitude towards the modification of available clinical drugs with new molecular scaffolds possessing potential activities against MDR strain.

Hydrazinecarbothioamides are recognized as one of the most competent biological promoters owing to nitrogen and sulfur donors, which equip them to bear an enormous diversity of coordination modes (Aly et al., 2009). Hydrazinecarbothioamides are embedded in manifold

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# Na<sup>+</sup> and Cl<sup>-</sup> induce differential physiological, biochemical responses and metabolite modulations in vitro in contrasting salt-tolerant soybean genotypes

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## Abstract

Chloride and sodium constitute as the major ions in most saline soils, contributing to salt-induced damage in plants. Research on salt tolerance has mostly concentrated on the sodium toxicity; however, chloride toxicity also needs to be considered to understand the physiological, biochemical, and metabolite changes under individual and additive salts. In this study, we investigated the effect of individual Na<sup>+</sup> and/or Cl<sup>-</sup> ions (equimolar 100 mM NaCl, Na<sup>+</sup> and Cl<sup>-</sup> salts) using in vitro cultures of four soybean genotypes with contrasting salt tolerance. In general, all the treatments significantly induced antioxidant enzymes activities such as catalase, ascorbate peroxidase, glutathione reductase, guaiacol peroxidase, and superoxide dismutase and osmolytes including proline, glycine betaine, and total soluble sugar (TSS). Both individual (Na<sup>+</sup>, Cl<sup>-</sup>) and additive (NaCl) stresses induced more pronounced activation of antioxidant enzyme machinery and osmolytes accumulation in the tolerant genotypes (MAUS-47 and Bragg). The sensitive genotypes (Gujosoya-2 and SL-295) showed higher accumulation of Na<sup>+</sup> and Cl<sup>-</sup>, while the tolerant genotypes were found to maintain a low Na<sup>+</sup>/K<sup>+</sup> and high Ca<sup>2+</sup> level in combination with enhanced antioxidant defense and osmotic adjustment. Gas chromatography-mass spectrometry (GC-MS)-based metabolomic profiling depicted the association of certain metabolites under individualistic and additive salt effects. The genotype-specific metabolic changes indicated probable involvement of azetidine, 2-furanmethanol, 1,4-dioxin, 3-fluorothiophene, decanoic acid and 2-propenoic acid methyl ester in salt-tolerance mechanism of soybean.

**Keywords** Soybean · Na-dominant · Cl-dominant · NaCl stress · GC-MS

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## Introduction

Soil salinity is a major threat to crop productivity and overall crop yield. It causes osmotic, ionic, and oxidative stress, which leads to decline in growth and plant development (Hossain and Dietz 2016). Globally, salinity affects almost 0.8 billion hectares of land, which is almost 6% of total land area (Muchate et al. 2016a; Nikalje et al. 2017). Accumulation of toxic Na<sup>+</sup> and Cl<sup>-</sup> ions leads to decrease in activity of stomata and electron transport system (ETS), which generate excess reactive oxygen species (ROS) (Negrao et al. 2017). The ROS causes oxidation of proteins, carbohydrates, lipids, chlorophyll and nucleic acids, and this results in cell death (Hossain and Dietz 2016). To combat salinity, plants have developed adaptive defense mechanism which includes synthesis of compatible solutes, compartmentalization of toxic ions, and induction of ROS-scavenging system (Abogadallah 2010).



## Influence of Sodium Chloride on Morpho-Physiological Responses of Grass Pea (*Lathyrus Sativus* L.) During Germination and Early Seedling Growth

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### Abstract

In the present investigation, morphological and physiological responses of *Lathyrus sativus* L. to sodium chloride (0, 50, 100 and 200 mM) induced stress was evaluated at seed germination and early seedling stages. The results were recorded in terms of Percent Germination (G%), Root Length (RL), Shoot Length (SL), seedling length, Shoot Fresh Weight (SFW), Shoot Dry Weight (SDW), Percent Tissue Water Content (%TWC), Secondary Roots (SR), Vigour Index (VI), Promptness Index (PI), Germination Stress Tolerance Index percentage (GSI %), Shoot Length Stress Tolerance Index (SLSI), Root Length Stress Tolerance Index (RLSI) and Dry Matter Stress Tolerance Index (DMSI). The increasing concentration of salt significantly diminished physiological parameters at germination level in pea. Its severity was higher in 200 mM NaCl while up to 100 mM NaCl grass pea seedlings maintained their growth by modulating G%, %TWC, VI, PI, GSI (%) and DMSI. The performance of grass pea under influence of salt reveals its moderate salt tolerance ability.

**KEYWORDS:** Grass pea, Salt stress, Seed Germination, Tolerance

### Introduction

Increasing soil salinity is a major constraint to crop growth and yield (Munns 2005; Rengasamy 2006). With this rate, worldwide, by 2050 almost 50 % arable land will be salinized (Wang et al. 2003). In India, about one million ha arable land is suffering from soil salinization and unsuitable for agricultural use (Hossain et al. 2006). Therefore, it is essential to identify salt tolerant crops for sustainable crop yield in salt affected areas.

The legumes belong to third largest family of flowering plants (Morris et al., 2003; Lewis et al. 2005). Economically, legumes represent the second most important family of crop plants after Poaceae (grass family), accounting for approximately 27% of the world's crop production (Graham and Vance, 2003). Grass pea (*Lathyrus sativus* L.) commonly known as 'khesari' belonging to the family Fabaceae. Grass pea has been grown for both food and forage in different parts of the world including Australia, the Mediterranean countries, North Africa, South America and



## YOGIC NUTRITIONAL STATUS AND DIET OF SCHOOL STUDENTS

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### Abstract

The purpose of this review is to present the basic principles of a healthy nutrition in female School Students enriched by the latest scientific recommendations. The prevalence of female athlete Triad, Eating disorders, and body image issues among female athletes reviewed. Inadequate nutritional intake is more common in female School Students than in their male counterparts. Proper diet is paramount for active individuals to maintain adequate energy during physical activity and for post activity recovery. An individual's dietary needs depend on his or her sex and body size, on the demands of the activity performed, and the duration for which the person performs the activity. Dietary components include macronutrients (carbohydrates, protein, and fat) and micronutrients (fluids, electrolytes, vitamins, and minerals). Furthermore, providing proper education and support to female athletes may help to prevent injuries, future health problems and improve athletic performance.

**Keywords:** School Students, Triad, carbohydrates, protein, performance

### Introduction:

The participation of females in sports has greatly increased over the last several decades. Data indicate that although the prevalence of clinical eating disorders ranges from 0 to 8 % among professional and college female School Students many of them are at risk for eating disorders which places them at risk for menstrual irregularity, bone injuries and lower athletic performance. Nutrition for School Students has three purposes: 1) maximize initial performance; 2) sustain maximal performance; and 3) rapid recovery. For the female athlete, proper nutrition is also needed to maintain menstrual cycle and bone health.

The menstrual cycle is an additional energy user, so female School Students need to eat both for athletic performance and to maintain a normal menstrual cycle. Adequate nutrition also helps sustain normal levels of estrogen, a hormone needed not only to maintain normal menstrual cycle, but also to stimulate bone growth. Consequently



## EFFECTIVE HEALTH, SAFETY & WELFARE PRACTICES FOR GENERATION 'Y' EMPLOYEE IN BPO INDUSTRY

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### INTRODUCTION

There is a metamorphosis in the world of work due to Information technology with special reference to Business Process Outsourcing (BPO) sector that affects an individual's work and society as a whole. Concept of BPO has changed the way business was done prior. "IT industry globally faces a challenge of managing change at the speed of thought is the only constant thing in the IT sphere. The latest happening in IT is BPO".

### WHAT IS BPO

*Business process outsourcing (BPO) is a subset of outsourcing that involves the contracting of the operations and responsibilities of specific business functions (or processes) to a third-party service provider. BPO is the process of hiring another company to handle business activities or projects for you.*

"In today's environment, building and maintaining competitive advantage is becoming a challenge for corporate around the world. Competitive advantage in the marketplace is derived basically through two means. One is by providing better customer value for equivalent cost (differentiation) or equivalent customer value for a lower cost (low cost). The ultimate situation to be in will be to provide better value at a lower cost." Trained and committed human capital is an asset for any organization even though it is not reflected on the balance sheet of the company. This intellectual capital is a most valuable asset but only when it is leveraged for competitive advantage.

Ideology of compete through people has accepted by most of the organizations. The idea that organizations "compete through people" highlights the fact that success of an organization increasingly depends on an organization's ability to manage talent or human capital. The term human capital describes the economic value of employees' knowledge, skills and capabilities. Although the value of these assets may not show up directly on a company's balance sheet it nevertheless has tremendous impact on an organization's performance.

### CATEGORIES OF BPO

**Back Office Outsourcing** - Back office outsourcing includes internal business functions such as human resources or finance and accounting are outsourced.

**Front Office outsourcing** - Front office outsourcing includes customer-related services such as contact centre services.

BPO that is contracted outside a company's country is called **offshore outsourcing** and BPO that is contracted to a company's neighboring (or nearby) country is called **nearshore outsourcing**.

Frequently BPO is also referred to as **ITES - Information Technology-enabled Services**. IT enabled services includes services that can be outsourced using the power of IT.

BPO business also has various verticals and horizontals like KPO (knowledge process outsourcing), TPO (Technology process outsourcing), LPO (legal process outsourcing) etc.







## The Impact of Demonetization on India Economy

Asst. Prof. Vijay Bapu Kadam

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### Keywords:

Demonetization, Cashless transactions, Plastic Money, Automated teller machine (ATM), Web based Transaction, Profitability, Payment System, etc.

### Introduction

The government has implemented a major change in the economic environment by demonetising the high value currency notes – of Rs. 500/- and Rs. 1,000/- denomination. These ceased to be legal tender from the midnight of 8<sup>th</sup> of November 2016. People have been given up to December 30<sup>th</sup>, 2016 to exchange the notes held by them. The proposal by the government involves the elimination of these existing notes from circulation and a gradual replacement with a new set of notes. The reasons offered for demonetisation are two-fold: one, to control counterfeit notes that could be contributing to terrorism, in other words a national security concern and second, to undermine or eliminate the “black economy”.

There are potentially two ways in which the pre-demonetization money supply will stand altered in the new regime:

**One**, there would be agents in the economy who are holding cash which they cannot explain and hence they cannot deposit in the banking system. This part of the currency will be extinguished since it would not be replaced in any manner.

**Second**, the government might choose to replace only a part of the currency which was in circulation as cash. In other words, the rest would be available only as electronic money. This could be a mechanism used to force a transition to cashless medium of exchange. These two would have different effects on the economy in the short term and in the medium term, as will be explored below.

### Objective of the Study:

To study the impact of demonetization and Cashless transactions on Indian economy.

### Data source/ Methodology:

This research is descriptive in nature. Basically data from secondary sources are used for the preparation of this report. Secondary data are collected from different books, journals; articles, periodicals, research papers and RBI official website.

### What is Demonetization?

Demonetization is the act of stripping a currency unit of its status as legal tender. Demonetization is necessary, whenever there is a change of national currency. The old unit of currency must be retired and replaced with a new currency unit.

“Demonetization is the withdrawal of a particular form of currency from circulation.” Through demonetization the old currency is replaced by the new currency or a currency circulation is blocked.





## **BANKING FRAUDS IN INDIA: AN ANALYTICAL STUDY**

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### **ABSTRACT**

*Indian Banking engineering has witnessed tremendous changes since objectivity of country. even though it is in time by Acts like Banking alteration Act, RBI Act, SBI Act, and liquidation Act, equal at that moment the sector faces loads of troubles outstanding to diverse frauds and dishonourable practices on the position of customers and employees of the banks. The offer examine is based on this level headed originate that in spite of countless regulations, conscientiousness is facing large losses awaited to bad conduct of people, anywhere known riches is involved. The buyer currency is misrepresented by exploiting separate flaws and loopholes in our fiscal system. It is an shot to pass easy on the an assortment of issues which initiate mounting of NPAs and breakdown young man quantity of banking industry.*

### **1 INTRODUCTION**

Indian Banking engineering is facing fraud interconnected issues for the over and done a small amount of years. Indian Banks, particularly known Sector banks are pain from mounting losses and mount in NPAs on story of greater than before demolish of amount of frauds. In the largest part of the personal belongings here is an involvement of peak plane management creating halt on banking activities. give somebody an advance of sanctioning for new projects, as happened in contemporary crate of Nirav Modi, produce brought sufferings for the industry. scores of the eminent executive's states been exciting for alleged corruption and fraudulent intentions in compromise loans. This creates a question mark smudge on corporate ascendancy and ethics in the industry. In fact, the hazard of rising NPA is a total disaster that is dependable for hold back in industry. The force of economic system of any

**DR. MAHADEV DATTU DONGARE**

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## 14. Portraits of Indian Woman in Anita Nair's Ladies Coupe and Mistress

Dr. Madhavi Pawar

TMV Guide.

Ms. Seema Ashok Bagul

TMV Scholar.

### Abstract

Anita Nair paints her women as they are, with their defenses down, ready to open their hearts to other women. The predicament of her characters is covered with a faint existential hue. They struggle for freedom, are aware of their absurd situation, feel stifled in it and try to find an answer to the very mystery of their existence in a society that does not understand them. They all come finally to their conclusions and feel at peace with themselves and their worlds.

**Key Words** - Subjugation, Rape, Lesbianism.

### Introduction

The women writers today seek to posit a woman's independent existence, focusing on the question of her identity crisis in a patriarchal society. In this scenario, the women writers are trying to give a free and bold expression to a wide variety of themes, including the existential angst that has suppressed the female folk through the ages. The female protagonist, in Anita Nair's novels expresses their resistance in many ways and thus they try to challenge the existing social codes. Writers like Githa Hariharan, Manju Kapur examine the woman's conditioning, her internalization of patriarchy and the reasons for her inability to subscribe to any oppositional action. The novelist observe that despite the influence of the western ideologies which cannot be avoided in the third world context and the present socio-economic changes, one cannot sidetrack the strong cultural leavings of the authors that provide unique ethos to the works. In their analysis, they focus on the issues such as resistance offered through patriarchy to the matriarch as patriarchy's agent, inequality of gender and violence against woman, childhood experiences as resistance and revisionist mythmaking as resistance against the existential problems. The recognition of struggle, in their novels, helps us locate a woman's implicit urges to redefine herself and survive not in an abject indifference, but with dignity. To quote Shubha Tiwari's words:





## CONTEMPORARY WOMEN NOVELISTS: A FEMINIST STUDY (Githa Hariharan, and Manju Kapur)

Miss. Seema Ashok Bagul<sup>1</sup> and Dr. Madhavi Pawar<sup>2</sup>

<sup>1</sup>TMV Scholar.

<sup>2</sup>TMV Gulde.

### ABSTRACT :

The present research work is an attempt to portray the woman of modern and current modern India as characterized in the novels of Githa Hariharan, and Manju Kapur, who are devoted to raise feminist and social issue. Their novels are the mirror image of the Indian women of the modern age, is an effort of shaping their life in their own ways, and tackling the differences in the tradition and modern society. In this way we can divide the problem or issues of the woman into two forms one is tradition which is output of the belief system which was natured by our primitives in our way of thinking and another is modernization which we have taken as granted with modifying ourselves in such a way that we have forgotten the basics of the life. This gives calls for the balance between the two issues which will help us to develop a better society for the women in which subject like female liberation, gender inequality, subjugation of women, self identity, women security, hygiene and growth will be discussed in open forum. Much of what we do today is the foot print of the past with little more advanced philosophy which is presumed to be based on the human tendency and point of view regarding women and society.

**KEYWORDS :** *Feminism, Gender Inequality, Tradition, Modernity.*

### INTRODUCTION:

Development of social systems has always been a complicated affair and this is clear from India's as well as world's history. Intermittent failure of society, unscientific philosophy, practices and social indebtedness, imperishable needs of the society and other risks has ensured that high discrimination between men and women; it is norm rather than an exception with respect to women in the society. This problem was also noticed by our colonial masters and to this date, providing a formal system of Feminism seems to be a challenge even in present situation.

Feminism started out as small grass roots philosophy in Western Europe, North America and Japan in the middle of the last century, however, it is the social issue that is regarded as the prototype of the modern society and the issue which have taken worldwide attention of Feminist.

Most of the writers, social activist, philosophical thinkers and educated people are engaged in preparing a very concrete base and platform for the development of the Feminism all over the world. However, the efforts of these people who have engaged in the development of the Feminism have not yet being so successful in





## 4. Recent Technological Trends of Indian Banking System

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### Abstract

Indian Banking Industry is in the midst of the Information Technology Revolution and its changes have put forth the competition among the Banks worldwide. The Information Technology has transformed the functioning of the businesses worldwide by bridging the gaps in the terms of reach and the coverage of system. The Technological infrastructure has become an indispensable part of the reforms process in the banking system. The Financial reforms that were initiated in the early 90s and the globalisation and liberalisation measures brought in a new operating environment to the banks which involves services such as: anywhere banking, Tele Banking, E- Banking, Internet Banking, Web- Banking, ATMs, etc. The banks in India have upgraded their capability to handle business volume which is made possible by implementing technology driven transaction banking systems. To attain the satisfaction and comfort of the customers, the banks are trying hard to meet the upcoming demands of the customers by offering the innovative and attractive packaged technology based services to their customers. The Banks are trying to satisfy their customers wherever they are. This paper is an attempt to study the Banking Sector. This paper aims at presenting the Technological Trends in Banking Sector. This Paper is also an attempt to trace the utility of Technologies in Banking with special reference to India.

**Keywords:** Banking and Technology

### Introduction

India's Banking sector has made rapid strides in reforming and aligning itself to the new competitive business environment. In 1969, a landmark was registered in the Indian Financial Sector, when 14 Banks were nationalized by the centre. It is a matter of great pride to mention that during the economic meltdown in 2008-09, our Indian Bank stood firm and remained unaffected. This shocked the whole world as few Banks of the developed nations crumbled down



## भारतीय महिला परीवर्तनाची सारणिती

डा. सुरेश शंकर मुद्दूक

संगोष्ठीक निगाणी

पी एच डी (तज्ज्ञशास्त्र), दिल्ली महाविद्यालय, पुणे

महिलांना पहिल्यापेक्षा जास्त अधिकार मिळाले आहेत हे खरे आहे. भारताच्या संविधानाप्रमाणे महिला आणि पुरुष समान आहेत पण नुसते बोलल्याने किंवा लिहिल्याने समाज बदलत नाही आणि बदलल्याशिवाय, त्यांनी पानमिळना बदलल्याशिवाय स्त्री-पुरुष समानता येऊ शकत नाही. म्हणूनच संविधानावरून समाजाच्या स्थितीचा अंदाज बांधता येत नाही. तो येतो रोजच्या जगण्यावरून लक्षाच्या संपूर्ण प्रक्रियेमध्ये तिचे शिक्षण, तिची गुणवत्ता महत्त्वाची नमुन अजूनही हुडाच महत्त्वाचा असतो.

स्त्रियांच्या सुरक्षिततेचा विचार करता, खुलेआम मुलींना बलात्काराच्या धमक्या दिल्या जातात. अगदी लहान मुलींपासून सगळ्या त्यांच्या बळी पडतात. समाजात एकतर्फी प्रेमातून ऑसड फेकण्यापासून मारून टाकण्यापर्यंत घटना घडतात आणि अपराधी मात्र छाती पुढे काढून फिरत असतात. ही आहे आजची व्यथा. स्त्री-पुरुष भेदभावाचे २१ शतकातील अत्यंत कुर उदाहरण म्हणजे स्त्रीलिंगी गर्भपात म्हणजेच ह्या समाजव्यवस्थेत विज्ञान आणि तंत्रज्ञानही आपल्या विरोधी बापरले जात आहे. एकंदरीत, आपल्याबरोबर होत असलेले भेदभाव हे गर्भलिंग तपासणी, मुलांचो खरोटी-विब्रे, हंडाबळी, पत्नी म्हणून होणारे अपमान आणि अत्याचार, विधवा व घटस्फोटीतांना मिळणारी वर्तणूक अशा अनेक रूपांमध्ये सतत मुरूच असतात. आपल्याला हे सगळे माहित नाही किंवा आपण ह्यावर विचार करत नाही असे नाही. उलट आपण कुठल्या ना कुठल्या रूपात याची शिकार झालेले असतो. पण आपल्या डोळ्यांवर संस्कारांचे पट्टे असो काही बांधलेली असते की आपण याकडे डोळेझाक करतो. या वांगळवादी दुनियेमध्ये जाहीरतीच्या वाढत्या नाच्यनाचून खांचा भोगवस्तु म्हणून प्रतिमा उभी केली जात आहे आणि यालाच सुंदरतेचे विरुद्ध लावले जात आहे.

स्त्री चळवळीने जे अनेक प्रश्न हाती घेतले त्यात सर्वात तीव्र संताप व निराशा निर्माण केली बलात्काराच्या समस्येने या समस्येविरुद्ध अत्यंत लढाऊ कृती केली गेली. पण त्याबरोबर दुसऱ्या बाजूला कार्यकर्त्या याबाबत निराशा, हताशाही होत होत्या. त्यांच्या भ्रमनिरासही होत होता. बलात्कार झालेल्या स्त्रियांची संख्या, त्यांनी पत्करलेले मौन, कार्यकर्त्यांनी चाचपडत घेतलेले निर्णय, समाजात रूढ असलेल्या समजुती या गोष्टीमुळे 'बलात्कार' या समस्येची वैचारिक उपेक्षा, प्रचलित समजुतीची व्याख्या व चिकित्सा या साऱ्याच गोष्टीबद्दल पुनर्विचार करावा लागणार आहे.

एका स्त्रीवरच्या हिंसाचाराच्या घटनेनंतर जनमताचा एवढा रेटा तयार होण्याची गेल्या कित्येक वर्षांतली ही पहिलीच घटना असेल. या घटनेच्या निमित्ताने फेसबुक, ट्विटरवर बलात्कारविषयी चर्चा घडल्या, लैंगिक छळवणुकीविषयी कायदा





## COMMERCIAL AND FINANCIAL GLOBALIZATION

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The participation of developing countries as a whole in world exports rose from 20 percent in 1970 to 43 percent in 2005, and their participation in the global product in purchasing power parity terms, which corresponded to 80 percent at the end of the eighteenth century, thanks mostly to China and India, fell to 20 percent in 1950, as a consequence of the imperialism to which those two countries were subjected; however, since the early 1980s, it has risen again, and it already, by 2005, represented 45 percent of world GDP.<sup>19</sup> Globalization is therefore reorganizing production worldwide. Rich countries as well as a good number of developing countries are growing at faster rates than in the past, but among them, the dynamic middle-income Asian countries, Russia, and Argentina are growing faster and catching up. Asia, which for centuries was the world's richest region, has regained its importance in the world economy.

The accelerated economic development that we are witnessing in middle-income countries is not happening by accident. Those countries have nationalist business and bureaucratic elites that adopt national development strategies based on domestic savings and on competent macroeconomic policies. A national development strategy is an informal agreement among the social classes under the leadership or the intermediation of government, aiming at economic development. It presumes the existence of a developmental state - that is, a state that makes economic development one of its central concerns, as has always been the case with U.S. state (despite the fact that its orthodox economists insist on rejecting developmentalism). In Latin America, between the 1950s and 1970s, when growth rates were high, the corresponding states were called "developmentalist." More recently, after the pioneering contribution of Chalmers Johnson (1982) regarding Japan, the term developmental state has been reserved in international political economy mainly for dynamic Asian countries (Evans 1995; Woo-Cummings 1999). However, a state does not have to be called "developmental" for it to have a national development strategy. Ireland, for instance, has grown at extraordinary rates since the late 1980s as a result of a national strategy (Godoi 2007). Regarding national development strategies, for now we must consider that they constitute an institution, or more precisely, a set of laws, policies, and agreements aimed at creating lucrative investment opportunities for entrepreneurs.

Yet, while commercial globalization is an opportunity from which some developing countries are able to profit, financial globalization is a threat insofar as it leads countries to lose control over their exchange rates and to become excessively indebted in foreign currencies. Financial opening is favourable to rich countries because an overvalued exchange rate in developing countries favours rich countries commercial interests and also increases the amount of hard currency multinationals transfer to headquarters with a given revenue in the local currency. It is also favourable because there is no more effective way of making countries (and people, as in the limiting case of present slavery episodes) dependent. This is why, since the early 1990s, when the neoliberal hegemony seemed invincible, pressures grew on developing countries to open their capital accounts and try to grow with the use of foreign savings. Although many are the diagnoses, recommendations, and pressures made by rich countries through the World Bank, the International Monetary Fund, and other agents of the international





## Globalization and Catching Up

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In globalization, the international division of labor between rich and middle-income countries follows a simple rule: tasks with higher value added per capita, which are not standardized or codified and require more skilled labor, composed primarily of managers and communicators, would be performed in rich countries that have plenty of this kind of labor, whereas standardized or codified tasks would be transferred to low-wage workers in developing countries. This process enable developing countries to catch up, profiting from their advantages of cheap labor and their capacity for importing technology at a relatively low cost, and at the same time guarantees that rich countries continue to grow at satisfactory rates, even if facing problems of delocalization and deindustrialization. As long as the new jobs in manufacturing industry and services have a higher technological content, demanding more skilled labor compatible with a higher value added per capita and therefore with higher wages, rich countries should continue to grow satisfactorily in the frame of globalization. Their real cost would be the greater concentration of income in the short run because initially the wages of their less skilled workers would suffer a relative decline and would increase only if those workers went through a qualification process inherent to development centered in industries with more technological content.

The assumption of economic theory that developing countries should catch up appears to be confirmed. An increasingly significant group of developing countries are fast-growing economies, profiting from the advantage of their lower labor costs and exportation to rich countries; these developing countries continue to industrialize because they are still transferring labor from agriculture and underemployment to manufacturing industry. However, not all middle-income countries have been successful in this transfer, and in the catch up, because not all such nations are strong enough to face the ideological hegemony of the North. Whereas the dynamic Asian countries have succeeded, Latin American Middle-income countries have failed, with the exception of Chile and, more recently, Argentina: they grow at slower rates than the rich countries and do not catch up. In these low-growth economies, societies lacking cohesion and with alienated ruling elites do not know how to use their states strategically and to grow. This will depend on each country's national cohesion and on the autonomy of its ruling elites with respect to rich countries.

Globalization is being accompanied by income concentration. Yet the increase in inequality is a consequence not mainly of more open markets but of the information technology revolution, which has increase the demand for skilled labor and decreased the demand for unskilled labor, and also of neoliberal ideology, which aims at precisely such an outcome. Trade opening and immigration cause some income concentration in rich countries because they force local workers to compete with cheaper labor, but rich countries have the means to defend themselves against it. Besides erecting higher barriers against immigration (because there is no political globalization there is no migratory globalization), they adopt countervailing social measures. As observed by John Stephens (2005), the possible reduction in wages caused by competition from middle-income countries tend





## 6. Gopal Ganesh Agarkar's Contemplation on Religion

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Gopal Ganesh Agarkar was one of the leading nineteenth century thinker and social reformer of Maharashtra. His was the generation of elite class of Maharashtra who thrived hard to get modern education. This generation experienced all physical and mental pain to educate themselves. In spite of all adversaries like poverty Agarkar attained his matriculation and graduation against all odds. He thoroughly got acquainted with contents and thoughts of western thinkers like Mill and Spencer. He was founder of New English School and Deccan Education Society two very important educational Institutes of Pune which produced hoards of intellectuals, generations after generations for nation. Agarkar along with Bal Gangadhar Tilak immensely contributed in Marathi Press and Journalism wrote extensively over contemporary social and political issues.

Nineteenth century witnessed great intellectual upheaval over Maharashtra. This was period of reason and rationalism which contributed immensely in shaping of modernity over Maharashtra and subsequently over Indian continent. The modernist strategy and trajectory to critique religion got fully developed in nineteenth century. This age was influenced by modern western thinkers like Spencer, Mill etc. Gopal Ganesh Agarkar was deeply influenced by ideologies of this duo. Laxman Shashtri Joshi pointed three types of

Religious ideas in first type he included magic, animism and spirit and ghost. His second category comprised cult of worship of power goddess and worship of cult of gods having human behavior. Third category comprises of monotheism, celestialism and elementism. As per observation of Laxmanshastri Joshi these three categories can be seen in Hinduism simultaneously. We can draw slimily between this thought of Laxman Shastri Joshi and thoughts of Agarkar on religion. Religion existed in every society from primitive to most advanced society. Religion is certainly a matter of faith with individuals or communities and it is not necessarily theistic. In an American case [Davis v. Benson, 133 US at 342] it has been said





# Metal-Free One-Pot Chemoselective Thiocyanation of Imidazothiazoles and 2-Aminothiazoles with in situ Generated *N*-Thiocyanatosuccinimide

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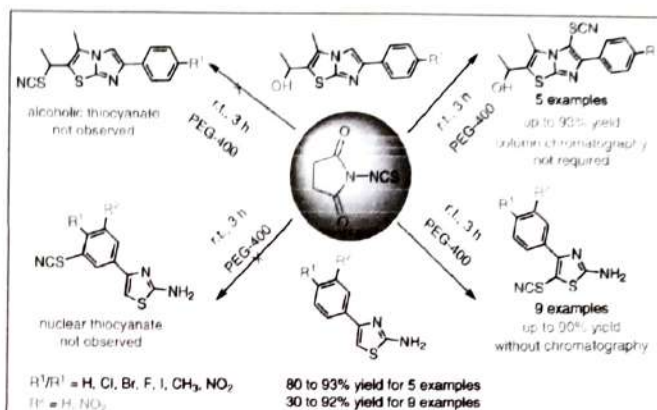
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**Abstract** A chemoselective thiocyanation of imidazothiazoles and 2-aminothiazoles with use of in situ generated *N*-thiocyanatosuccinimide (NTS) at room temperature is described. The protocol offers mild reaction conditions and high chemoselectivity for electrophilic substitution in imidazothiazoles over nucleophilic substitution. This method provides metal-free and easy conversion of imidazothiazoles and 2-aminothiazoles into their corresponding C-3 and C-5 thiocyanates, respectively, in good to excellent yield. The present protocol also offers the effective thiocyanation of bifunctional imidazothiazoles containing aliphatic  $-\text{OH}$  and  $\text{C}(\text{sp}^2)\text{-H}$  bond functionalities.

**Keywords** *N*-thiocyanatosuccinimide, thiocyanation, imidazothiazoles, 2-aminothiazoles, PEG-400

Thiocyanates are considered as one of the most versatile synthons in the field of organic chemistry. They have proved their potency as crucial synthetic intermediates in the synthesis of various sulfur-containing heterocycles such as sulfides,<sup>1</sup> thiocarbamates,<sup>2</sup> sulfanyl pyridines,<sup>3</sup> and thio-tetrazoles.<sup>4</sup> The intriguing properties of thiocyanate have been utilized for the synthetic transformation of useful functionalities such as aryl nitriles,<sup>5</sup> sulfonyl cyanides,<sup>6</sup> thiazoles,<sup>7</sup> thioesters,<sup>8</sup> imidazoles,<sup>9</sup> and so on. The thiocyanation reaction is one of the most significant protocols for direct C–S bond formation.<sup>10</sup> Consequently, enormous efforts have been made in order to achieve thiocyanation of various heterocyclic compounds.<sup>11</sup> In the midst of various proceedings for thiocyanation of aryl and heteroaryl compounds, incorporating thiocyanate (SCN) particularly into C–H functionalities has always been a center of interest because of its own advantages.<sup>12</sup> For accomplishing this goal

several approaches have been encountered (i.e. use of iodinated reagents,<sup>13</sup> oxidants,<sup>14</sup> and brominating agents<sup>15</sup>) in combination with readily available, low-cost thiocyanate salts as thiocyanating agents. But these strategies are mainly focused on imidazopyridines and indoles.<sup>16</sup> Furthermore, the selectivity of direct electrophilic thiocyanation of  $\text{C}(\text{sp}^2)\text{-H}$  bonds over nucleophilic substitution by alcoholic  $-\text{OH}$ , when both groups are present in same compound, by using *N*-thiocyanatosuccinimide (NTS) as a reagent, has not been studied previously.

Imidazothiazoles are considered a significant class of heterocyclic compounds. For example, levamisole and tetramisole, known for their antihelminthic and immunomodulatory properties, respectively, display an imidazothiazole core (Figure 1). The majority of imidazothiazoles exhibit a wide range of biological activities.<sup>17</sup> Thiazoles are structurally very close to imidazoles, with the only difference of sulfur replaced by nitrogen. Vitamin B (thiamin) (Figure 1) is an important naturally occurring vitamin which contains the thiazole ring as an active center involved in various biological processes. Thiazoles are considered to be one of the most compelling heterocyclic compounds because of their broad spectrum of biological activities.<sup>18</sup> Considering these consequential advantages, immense efforts have been made for the synthesis of imidazothiazoles and thiazoles.<sup>19</sup> Introduction of new functional groups into these moieties may modify their biological profile or may imbue new biological activities. For this purpose, direct C-3 and C-5 functionalization of imidazothiazoles and thiazoles, respectively, provides an acceptable strategy.

Conversion of alcohols to their corresponding alkyl thiocyanates or alkyl isothiocyanates has been extensively studied.<sup>20</sup> Recently, Mokhtari et al. reported one-pot thio-





## Research Article

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## Synthesis of Pyrazolo [4,3-e] Pyrimido [1,2-a] Pyrimidin-3-Amine Derivatives and their Antimicrobial Activity

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### ABSTRACT

The present work demonstrated the synthesis of some new pyrazolo[4,3-e]pyrimido[1,2-a]pyrimidin-3-amine derivatives by sequential course. The reaction of 4- chloro benzaldehydes (1) with ethylcynoacetate (2) and guanidine hydrochloride (3) gives the intermediate product (4), which on treated with substituted chalcones (5a-j) gives the intermediate product (6a-j) which on treated with hydrazine hydrate (7) gives the final pyrazolo[4,3-e]pyrimido[1,2-a]pyrimidin-3-amine derivatives (8a-j). All the synthesized derivatives were characterized and screened for their antimicrobial activity has been carried out. Most of the synthesized compounds exhibited intensive antimicrobial activity.

**Keyword:** Pyrazolo[4,3-e]pyrimido[1,2-a]pyrimidin; bleaching earth clay (pH 12.5); green Synthesis; polyethylene glycol (PEG-400); antimicrobial activity

### INTRODUCTION

Natural antibiotic agents have become essential to the ongoing health care system, supporting and complementing the natural immune system against the microbial organisms. As conventional antibiotics are often abused to treat microbial infections, some microorganisms have developed tolerance to these antibiotics. Because of the appearance of antibiotic resistant strains, the steady development of novel and efficient antibiotic agents is more crucial than ever [1]. So, the medical community deals with severe crisis against infections caused by the pathogenic bacteria and needs an effective therapy and search for novel antimicrobial agents. Synthetic organic chemistry has always been a vital part of highly integrated and

multidisciplinary process of various drug developments.

Pyrazoles are well known class of heterocyclic compound with two adjacent nitrogen atoms and have great scientific interest in medicinal [2], pharmaceutical [3] and agrochemical field [4]. pyrazoles play an important role in medicinal chemistry as synthetic building blocks with wide range of application, such as antimicrobial [5], anticancer[6], antifungal [7], anti-inflammatory [8], antiviral [9] and anticonvulsant [10]. The ring of pyrazole has a main framework in agricultural field for transition metal cross coupling and polymerization reaction. Apart from this, pyrazole derivatives have been utilized for the development of crop protecting agents [11]. These compounds were also applicable for have demonstrate to possess





## Research article

## Salt responsive physiological, photosynthetic and biochemical attributes at early seedling stage for screening soybean genotypes

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## ABSTRACT

Salt stress affects all the stages of plant growth however seed germination and early seedling growth phases are more sensitive and can be used for screening of crop germplasm. In this study, we aimed to find the most effective indicators of salt tolerance for screening ten genotypes of soybean (SL-295, Gujosoya-2, PS-1042, PK-1029, ADT-1, RKS-18, KDS-344, MAUS-47, Bragg and PK-416). The principal component analysis (PCA) resulted in the formation of three different clusters: salt sensitive (SL-295, Gujosoya-2, PS-1042 and ADT-1), salt tolerant (MAUS-47, Bragg and PK-416) and moderately tolerant/sensitive (RKS-18, PK-1029 and KDS-344) suggesting that there was considerable genetic variability for salt tolerance in the soybean genotypes. Subsequently, genotypes contrasting in salt tolerance were analyzed for their physiological traits, photosynthetic efficiency and mitochondrial respiration at seedling and early germination stages under different salt (NaCl) treatments. It was found that salt mediated increase in AOX-respiration, root and shoot K<sup>+</sup>/Na<sup>+</sup> ratio, improved leaf area and water use efficiency were the key determinants of salinity tolerance, which could modulate the net photosynthesis (carbon assimilation) and growth parameters (carbon allocation). The results suggest that these biomarkers could be can be useful for screening soybean genotypes for salt tolerance.

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## 1. Introduction

Soil salinity is becoming a major threat to realizing crop yield of agricultural crops. About 20% cultivated land and 33% of irrigated agricultural land is affected worldwide by salinity and average yields for most major crop plants have dropped by more than 50% (Gupta and Huang, 2014). Thus out of the 25% irrigated area, 17% area is salt affected in India and this is increasing every year (Parihar et al., 2015). To address this threat, plant based solutions have assumed significance for improving salt tolerance in crop germplasm. This requires screening of salt tolerant genotypes which can survive and produce higher yield in salt affected soils. In a given species, it is known that different genotypes show contrasting response to salinity (Ali et al., 2014; Sharma, 2015; Kan

et al., 2015) and it is thus desirable to, screen for salt tolerant genotypes which will be good candidates for cultivation in saline soils.

It is well established that salinity imposes osmotic (physiological drought or water limitation) and ionic stress (ion toxicity) (Munns and Tester, 2008). In the early phase, salinity inhibits water uptake, cell elongation, root development, formation of new leaves while in the later phase, salt ions accumulates and causes premature senescence, disruption in enzyme functionality and inhibition of photosynthesis (Munns, 2005; Roy et al., 2014). It affects most of the developmental stages of plants from seed germination to reproductive stage. The seed germination and early seedling growth are the most susceptible stages of plant growth to salt stress and can be used to screen genotypes for their tolerance or sensitivity (Pandey and Suprasanna, 2016). Seed germination and early seedling stages are the important stages in the life cycle of a plant, as they regulate the seed vigor and consequently plant adaptation to salt stress (Carpici et al., 2009). Genotype screening at seedling

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# ROLE OF MEDICINAL MUSHROOMS IN IMMUNOMODULATION

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## Abstract:

*Medicinal mushrooms plays important role in immunomodulation as they contains number of bioactive compounds The search for novel polysaccharides with immune enhancing properties seems from the basic shortcomings of existing therapies. Majority of chemical compounds, which have been identified as cytotoxic to cancer cells, are also toxic to normal cells. Hence, the discovery and identification of safer new drugs, without severe side effects, has become an important goal of research in the biomedical sciences. A future significant observation is the ability of all the mushroom polysaccharides when administered to significantly reduce the side effects so often encountered. Therefore current review enlightened the important bioactive polysaccharides from medicinal mushroom with immunomodulation.*

**Keywords:** Medicinal mushroom, Polysaccharides, bioactive compounds.

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## Effect of Psychological Training on Competition Stress of Kho-Kho Players.

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### Introduction

Kho-kho, 12-a side field pursuit game (only 9 players on each side may take the field at once) very common in India, and also played in Pakistan, Myanmar, Sri Lanka, and China. Its most remarkable feature is that players must hold their breath for long periods. It is probably the only field game in the world which has categories for age and weight. Moreover, no equipment is needed and there are no goals. Provided the ground is reasonably level a pitch can be marked on many different kinds of surface. Purpose of this study was to examine the effect of training on the competition stress of Kho-kho players. Twenty Kho-kho players were in each group during three months period. Motivation Training and Psycho regulation Training was given to each group

### History and development of kho-kho<sup>16</sup>

Kho-kho in India is aptly known as the "GAME OF THE MASSES" due to its popularity. Simple, easy to comprehend rules, and public appeal. The game calls for no sophisticated equipment what so ever, which makes it a very popular sport in the developing countries. Though it is basically an out door sports played on clay court, of late the game is being played on synthetic surface indoors with great success. The duration of the game is 45 minutes for men and junior boys with a 5 minutes break in between for the term to change sides. In the case of women/girls and sub junior boys, the duration is 35 minutes with a 5 minutes break in between.

### Fitness parameters for the game of Kho-kho<sup>17</sup>

Kho-kho game needs excellent physical fitness with certain fitness parameter such as

- Strength, maximum strength, strength endurance, explosive strength
- endurance, aerobic endurance, specific endurance, speed endurance
- speed, acceleration ability, agility, reaction time

As the game involve a high standard of agility, strength, judgment, alertness of mind fearlessness, tact and skill full bodily movement on the part of participation and finally provide scope for self expression, creative, imagination and opportunities for a sustained interest in the game

### Objective of study<sup>18</sup>

- To measuring effect of motivation training on Competition stress of Kho-kho players.
- To measuring effect of psycho-regulation training on Competition stress of Kho-kho players

<sup>16</sup>E.Prasad Rao, "MORDERN TECHNIQUES IN Kho-kho", Journal of Health and Physical Education, 17, No.9 (November, 1998). p1-3.

<sup>17</sup>E.Prasad Rao, "MORDERN TECHNIQUES IN Kho-kho", Journal of Health and Physical Education, 17, No.9 (November, 1998). p. 40

<sup>9</sup>E.Prasad Rao, "MORDERN TECHNIQUES IN Kho-kho", Journal of Health and Physical Education, 17, No.9 (November, 1998). p. 45

<sup>18</sup>Bera, T.K. (1999) Assertion of physical education and Indian Traditional Lifestyle for public health D.lit (Physical Education) Synopsis, submitted to University of Kalyani, West Bengal, India. P.20





## Effect of Psychological Training on Competition Stress of Wrestling Players

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### Introduction:

The India Wrestling game. This game is very popular sport in India as well as in neighbor countries. Purpose of this study was to examine the effect of training on the competition stress of Kho-kho players. Twenty Kho-kho players were in each group during three months period, Motivation Training and Psycho regulation Training was given to each group.

### History And Development Of Wrestling:

The style of Indian wrestling, also known as Pehlwani and the person referred as Pehlwan, kushti. The traditional Indian wrestling takes place in "Akhada". Akhada is a place for practicing the Indian wrestling, in other words the school of wrestling. Indian wrestler or pehlwan live under some strict set of rules made by the trainer or ustad. There are very few Akhadas remaining in India. Some dedicated peoples are still working to keep alive.

### Fitness parameters for the game of Wrestling:

Wrestling game needs excellent physical fitness with certain fitness parameter such as

(A) Explosive Strength, maximum strength, strength endurance, explosive strength.

(B) aerobic endurance, specific endurance, reaction time speed endurance

As the game involves a high standard of agility, strength, judgment, alertness of mind, fearlessness, tact and skill, full bodily movement on the part of participation and finally provides scope for self-expression, creative, imagination and opportunities for a sustained interest in the game.

### Objective of study:

1. To measuring effect of motivation training on Competition stress of Wrestling players.
2. To measuring effect of psycho-regulation training on Competition stress of Wrestling players.

### Importance of training:

All sport and exercise participants fall victim to mistakes and mental letdowns. Mental and emotional components often overshadow the purely physical and technical aspects of the performance. To overcome this, one must become equally fit both mentally and physically, an individual's success or failure in the sport and exercise arena lies in the ability of the individual to practice both physical and mental skills.<sup>[2]</sup>

### Methodology:

The present study focuses on the effect of special training on the 40 men Wrestling players in Mamasahab wrestling center. Pre-test post-test equivalent group design was utilized to study the effect of training on Psycho-regulation and motivation training on skill performance. Twenty subjects in each group were divided by purposive random sampling. Three month special training, which included special drills for developing Psycho-regulation and motivation training was given whereas control group was not given any specific training. Data was analysed with independent sample "T" test. The following questionnaires were employed to ascertain the selected 20 players in each group using purposive random sampling method:

- Self-Confidence Inventory (SCI) developed by Agnihotry was used to measure self-confidence. This is a standardized inventory and reliability and validity is 0.91 and 0.82 respectively.
- State-Trait Anxiety Test (STAT) developed by PSY-COM Services was used to measure anxiety of subjects. The STAT is a standardized test and reliability of the test is 0.88.

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## DETERMINANTS OF ORGANIZATIONAL COMMITMENT OF GENERATION Y EMPLOYEES IN BPO SECTOR IN INDIAN WITH SPECIAL REFERENCE TO PUNE CITY

Jogesh N. Shrikhande

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There is a revolutionary change in the world of work of BPO industry. Widespread growth and development of BPO industry worldwide created many new opportunities and jobs. This growth and fast development of new opportunities in BPO sector has given birth to the problem like increase in job hopping and turnover and decrease in organizational commitment.

### ARCH PROBLEM

Turnover of valuable employees can result in various problems like Interruption in normal operations, increased replacement and recruitment costs, Loss of efficiency & incomplete projects, Customer dissatisfaction, Scheduling difficulties, Depletion of company's intellectual capital etc. Therefore, it is necessary to study the important determinants of organizational commitment.

**IMPORTANCE OF THE STUDY:** This study has theoretical as well as practical importance. Theoretically it opens a new dimension for retention theories of valuable current employees and practically, with the help of this study the B.P.O. companies are able to know which determinants of organizational commitment are most important for Generation Y employees in their company.

### OBJECTIVES

To study two determinants of organizational commitment i.e. Job Characteristics and work life balance of Generation Y employees of B.P.O. industry in Pune City.

To study effects of these determinants of organizational commitment on Generation Y employees of BPO industry in Pune City.

To suggest the remedies for retention of B.P.O. professionals.

### ARCH METHODOLOGY

#### Primary Data :

#### Sample size and sampling Technique

Stratified random sampling has been applied as a sampling technique. Out of total BPO companies in group A wards for Pune Municipal Corporation in Pune city, 10 % companies with turnover above 10 crore are selected. BPO Companies do not disclose exact number of employees on their website due to confidentiality. Due to high attrition rate number of employees goes on changing. Researcher has to rely upon the data given by the respondent. Therefore, standard sample size for infinite population i.e. 385 is decided<sup>1</sup>

#### Secondary Data:

Secondary data has been collected from the published literature such as reference books

Magazines of Reputes

News papers etc.

Government reports, Websites also will be used for obtaining secondary data.

### FORMULATION OF HYPOTHESIS





## HR Practices in the changing Workplace & Societal Setup with Reference to B.P.O. Industry in Pune City

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### Introduction:

The end of the twentieth century heralded the era of the post industrial economy that is the emergence and evolution of the service economy. This era of the service economy came to be called the 'age of information and knowledge'. Rather than producing goods, the service firms produce 'ideas'. Organizations in the 'service era', such as software, financial services and biotechnology firms depends on 'intellectual capital' and are therefore the most valuable asset of a firm. Information technology firms and BPO firms are best example of the same.

Organizations are no longer governed by the business, legal and political environment of their own nations only but also by the multinational environment. As the world become one global playing field, the environmental changes in countries other than the home country of a firm affect business decisions and the performance of firm. Several societal and global phenomena have challenged the management of human resource. Changes in the economic, business, social and cultural environment has brought about a transformation in the human resource function and the role and responsibilities.

### Objectives of the study :

To study changes in the trends of business environment with special reference to BPO industry

To study changes in the world of work with special reference to BPO industry

To study policies HR policies in BPO industry in response to changes in the business environment

### Literature Review :

#### 1. Book Review :

Deepak Shikarpur edited a Book titled "bpo TEST", published by Amey Prakashan in 2004 with ISBN number 81-86172-89-0. A book of 454 pages. A book is a collection of 44 articles by eminent writers who are the authority in BPO, IT and ITES industry. The book reveals

lots of information about the BOP business and its relevance, importance, nature and scope in Indian context. According to the editor of the book Mr. Deepak Shikarpur, BPO is the best possible option for survival of global business. India can become world's back office through low cost and high quality solutions. This book covers depth and breadth of BPO industry.

2. The Douglas Brown and Scott Wilson authored "The Black Book of Outsourcing – how to manage the changes, challenges and opportunities", published by Wiley India Pvt. Ltd. in 2005 with ISBN number 978-81-256-1439-7. The book is of 366 pages divided in to three main parts. First part deals with how to plan lead and manage outsourcing initiatives. Second part deals with the indispensable guide to finding an outsourcing career and third part deals with the indispensable guide for outsourcing entrepreneurs.

3. Rick L. Click and Thomas N. Duening jointly authored book "Business Process Outsourcing – The Competitive Advantage" Published by Wiley Publication in 2004 with ISBN Number 0-471-65577-5. The book is of 233 pages divided in to five parts like BPO overview, to BPO or not to BPO, BPO vendor selection, executing or outsourcing projects and the future of BPO. The book gives in depth knowledge about the BPO business. It is beneficial for those who want to undertake the BPO business. The book very well explained the complexities of working with offshore partner.

4. Ankur Mittal authored book "Some Methods Some Madness – Managing BPO in India", Published by Tata McGraw-Hill in 2009 with ISBN number (10) 1-25-902820-8. The book is of 302 pages.

The book shows light on the important factors of BPO business like financial, operational, people and improvement. The writer has nicely explained the essence of managing diverse and ever changing domain of BPO. It also deals with day to day challenges and opportunities offered by BPO industry. As the writer has





**STUDY OF WORKING CAPITAL OF DIAMOND LIFTER ORGANIC FERTILIZER PRIVATE  
LIMITED, DISTRICT PUNE**

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**Abstract**

Working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelationship that exists between them. This paper tries to make an attempt to study the working capital, components of working capital and liquidity of Diamond Lifter Organic Fertilizer Private Limited, District Pune.

The paper also tries to study the correlation between liquidity and profitability of this fertilizer unit. The study is based on secondary data collected from annual report of this fertilizer unit for the period of 5 years on website of ministry of company affair. In this paper there is an application of correlation analysis to identify the significant of working capital management include the current ratio and quick ratio on the liquidity position of this fertilizer units.

**Key words**

Working Capital, objectives, Hypothesis, sources of data collection, limitation, Net Working Capital, Net Working Capital Ratio, Current Ratio, Liquid Ratio, Findings, Suggestion, Conclusion & References.

**Introduction**

Working capital study of Diamond lifter Organic Fertilizer Private Limited, District Pune' (DLOFPLDP) is of major importance of internal & external analysis because of its relationship with the current day to day operations of business. Funds, collected from different sources are invested in the business for the acquisition of assets. These assets are employed for earning revenue. The basic problem facing the finance manager of an enterprise is to trade-off between conflicting but equally important goals of liquidity and profitability and vice versa.

**Need of Study**

1. To study the need of maintain sufficient working capital of fertilizer units.
2. To check balance between liquidity and short term.

**Objectives of the Study**

- 1) To study the position of working capital of selected fertilizer units.

- 2) To make suggestions for the better working capital management of fertilizer units.

**Hypothesis**

- H0: Insufficient working capital has adverse affected in the liquidity of fertilizer units under study.
- H1: Insufficient working capital has not effecting in the liquidity of fertilizer units under study.

**Period of Study**

The present study is undertaken for the period of five accounting year starting from 2012-2013 to 2016-2017. The researcher has selected 2012-2013 as base year for the purpose of analysis and evolution.

**Sources of Data Collection**

Researcher has used secondary data as main sources for the presented research study. Annual accounting reports such as Income statement position statement are collected from web side of ministry of corporate affairs



## LITERATURE REVIEW ON WORKING CAPITAL MANAGEMENT

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### Abstract

In depth analysis & interpretation tells that most in case study and research work is observed and focused mainly on two aspects, working capital on profitability of firm and working capital management. The issues with previous literature are lack of survey-based approach and lack of methodical theory advance study, which gives direction and idea for future research. The proposed future research direction is given in this paper may help to develop a better understanding of determinants and practices of working capital management.

### Key words

Working Capital, Working Capital Management, Components of Working Capital Management, Cash Conversion Cycle & Ratio Analysis.

### Introduction

The review of related literature and references helps the researcher to understand the used methods for previous related thesis, dissertation and related study.

The researcher take few working capital literature and reference at the reports of Ph. D., M. Phil, Minor research projects and Major research projects, different study reports and research paper & articles.

#### 1966, NCEAR - Structure of WC

In India, National Council of Applied Economic Research (NCEAR) in 1966 initial time conducted the official study on working capital management. The board study and published and issue a structure of working capital which was analysis of the construction of working capital. The result of the study was working capital management practices were extremely unplanned and later essential to advance correct accounting strategies like as inventory management. Accounts receivables and accounts payables movement as to do the successful and effective business. The scholar was recommended appropriate working policies and strategy.

#### 1972, Bhatt V. V. - System to Appraise Working Capital Management

The researcher Main focus on system to evaluate and appraise working capital management and its finance particularly for the big measure businesses. Its tools too co-operative toward extra areas like farming as well marketing trade etc. His conclusion was as bank provided short term money to process of business at the similar period need to pay care on refund of loan and essential money need. He thought that this two are must be preserve correctly so no essential to evaluate the working capital management.

#### 1975, Misra - To Identify Problems of WC

In this research the Researcher found that problems of working capital in six public enterprises for the period of 1960. The conclusion of above research was selected samples of corporations were not able to apply working capital efficiently and extra inventory level which shows that inappropriate management of stock. Delay exchange was made to foreign exchange and issue of import certificate. Liberal credit policy and in appropriate collection policy is very low because of accounts receivable ratio. It is found that most of the selected firms were having huge money amount on account and inappropriate management and control on money.





## INDIAN ADIVASI WOMEN AND INVOLVEMENT IN ECONOMIC ACTIVITY

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### ABSTRACT

*This manuscript has been in black and white on the beginning of qualitative and quantitative records composed from inferior mine and discussed effort membership of ethnic women in India in a descriptive manner. The clannish women get been make equal partners with ethnic men in the involvement to household economy. reasonably habitually their women act other real labour in their agricultural fields and wood than that of the ancestral men. clannish women give birth to regularly enjoyed a senior group grade in their have communities than Indian women in general. about of the tribes like Khasi in Mizoram and Meghalaya are matriarchal. However, the literacy value in the company of the tribe's and supplementary subsequently in issue of clannish women is very stumpy and this is besides coupled with unfortunate dietetic and health class surrounded by the tribal. The guess of poverty prepared by preparation agency for the day 1993-94 shows that 51.92 percent rural and 41.4 percent city Scheduled Tribes were quite live below the poverty line. They are engaged in a mixture of occupations like hunting shifting agriculture to complete crop growing and rural crafts. A identical negligible percent is engaged in non-agricultural actions The Scheduled Tribes constitute 8.2% of India's add up population. In the entire nearby are 700 Scheduled Tribes in India. States of Chhattisgarh, Jharkhand, Madhya Pradesh and Orissa every one of self-possessed tolerate about 40% of the equal ethnic people of the country.*

### INTRODUCTION

The reputation of women in a group is a sizeable manifestation of the rank of gathering fair dealing in that society. Women's position is repeatedly described in expressions of their direct of income, employment, education, health and fruitfulness as in a good way as their roles inside the family, the district and society. In ancestral communities, the job of women is

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## **INDIAN FOOD PROCESSING INDUSTRY: A KEY SENERGY OF INDUSTRY & AGRICULTURE**

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### **ABSTRACT**

*Rations handing out vital sector with elevated press flat of giving out helps in the cut of wastage, improves evaluate addition, promotes crop diversification, ensures healthier proceeds to the farmers, promotes employment as capably as increases export earnings. This sector is besides proficient of addressing perilous issues of groceries security, provisions inflation and as long as wholesome, healthy cooking to the masses.*

### **INTRODUCTION:**

Food giving out productiveness provides the fundamental linkage between productiveness and crop growing and is of massive consequence for India's development. India at this time processes a smaller amount than 10%<sup>1</sup> of its Agri output (only around 2% of fruits and vegetables, 6% of poultry, 21% of meat, 23% of naval and 35% of milk) and a good number of the handing out that is complete in India be capable of be classified as crucial doling out – prepared through rice, sugar, cooked grease and flour mills etc. However, main handing out offers inferior value-addition compared to resultant doling out that includes dispensation of above what is usual merit objects viz fruits and vegetables, dairy, bakery, chocolates etc. Thus, particular the extraordinary fabrication levels next to with down giving out recent handing out rates, the sector presents colossal opportunities. The call for of the hour is to shift up the treasure fasten together in processed cuisine harvest by establishing able backward linkages to add to nation's provisions precautions as suitably as add towards civilizing the pay packet point of the farmers by plummeting foodstuff wastages (which are as high-pitched as US\$1.5 billion 92,000 crores<sup>2</sup> annually) and enhance rations as fortunate as processed rations exports (which at present pause at 2.31% and 10.69% respectively<sup>3</sup>). Additionally, the sector

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1P a g e

# Emerging Trends of Supply Chain Management and Practices in India

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## Abstract

India is constitutes and one of the fastest growing markets in the world. Globalization of businesses, infrastructural bottlenecks, increasing uncertainty of supply chain networks, shortening of product life cycles and proliferation of product variety have forced Indian firms to look beyond their four walls. They face issues related to choosing and working with the right supply chain partners (suppliers, customers and logistics service providers), fostering trust between them and designing the right system of gauging performance. In this paper, we present a snapshot picture of logistics and Supply Chain Management (SCM) practices in India. It is borne out of the felt need by managers, expert professionals and academicians to address logistics and supply chain practices at the national level. Our exploratory study is based on both field visits and secondary data. We capture facts, figures as well as qualitative responses about the logistics infrastructure and supply chain practices. We focus on supply chain collaboration and partnerships, supply chain structure, facilities network design, transportation and logistics and the role of Information and Communications Technologies (ICT). Field visits to at least one major facility of 20 firms were carried out during 2015. The paper gives insights into how far the firms and their supply chains in India have come in dealing with major supply chain issues, the practices they focus on or need to focus on. We also highlight and address a few issues related to supply chain managers and policy makers.

**Key Words:** Supply Chain Management, Communication Technology

## Introduction

A few years ago, SCM were seen as necessary evils in India; today they are seen as a matter of survival and competitive advantage. As companies look at SCM strategically, they turn to specialized service providers to cut out non-core activities from within. A rising focus on outsourcing is leading to a surge in business performance for logistics service providers. Worldwide, best-in-class companies have invested in enabling infrastructure and technology to realize their supply chain vision into a reality. These include integrated supply chain cost models for decisive inventory management, technology for handling supply chain through put and information systems capable of fostering visibility across organizational boundaries. Wal-Mart had its own satellite communication system as early as 1983. Similarly, there are multi-billion companies which have shifted focus from courier and cargo to logistics and supply chain; from being freight forwarders to integrated shippers; and from customs clearances to consultants. Indian SCM service providers are also evolving rapidly. The shift in service providers from just movers of material to logistics to supply chain services has quickened in the past few years. Truckers are moving up into integrated haulers; large Indian companies with multi-million spends on logistics are hiving off entire divisions into service providers who handle not just the parent's logistics but also of others; others are forming joint ventures to leverage skills

## Objective of the study:

1. To study of supply chain of India
2. To study of functioning supply chain in Management.
3. To study of importance of the supply chain in Management.

## Scope of the Study:

This research opens the way for in-depth studies of some of the areas of concern identified for logistics and supply chain management practices. Research may be carried out using specific cases to study these practices at firm level in detail. It should cover multiple functional areas (logistics, marketing, IT, operations, etc.) of a single firm in much more systematic manner. Later on, the same may be extended to supply chains. It may be worthwhile to investigate how these practices differ across firm size.



## RECENT TRENDS OF BANKING SECTOR REFORMS IN INDIA

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### INTRODUCTION:

Financial sector reforms have long been regarded as an important part of the agenda for policy reform in developing countries. Traditionally, this was because they were expected to increase the efficiency of resource mobilization and allocation in the real economy which in turn was expected to generate higher rates of growth. More recently, they are also seen to be critical for macroeconomic stability. Developing countries can expect increasing scrutiny on this front by international financial institutions, and rating agencies and countries which fail to come up to the new standards are likely to suffer through lower credit ratings and poorer investor perceptions. In this background it is both relevant and timely to examine how far India's financial sector measures up to what is now expected. Reform of the financial sector was identified, from the very beginning, as an integral part of the economic reforms initiated in 1991. As early as August 1991, the government appointed a high level Committee on the Financial System (the Narasimhan Committee) to look into all aspects of the financial system and make comprehensive recommendations for reforms. The Committee submitted its report in November 1991, making a number of recommendations for reforms in the banking sector and also in the capital market. Shortly thereafter, the government announced broad acceptance of the approach of the Narasimhan Committee and a process of gradualist reform in the banking sector and in the capital market was set in motion.

### OBJECTIVES OF THE STUDY

The Present study is addressed on the backdrop of following two objectives:

- To evaluate the overall scenario of banking system in India.
- To know the reforms that took place in the financial sector.

**Evolution of Banking System in India:** A bank is a financial institution that provides banking and other financial services to their Customers. A bank is generally understood as an institution which provides fundamental Banking services such as accepting deposits and providing loans. There are also nonbanking institutions that provide certain banking services without meeting the legal definition of a bank. Banks are a subset of the financial services industry.

**History of Indian Banking System:** The first bank in India, called The General Bank of India was established in the year 1786. The East India Company established The Bank of Bengal/Calcutta (1809), Bank of Bombay (1840) and Bank of Madras (1843). The next bank was Bank of Hindustan which was established in 1870. These three individual units (Bank of Calcutta, Bank of Bombay, and Bank of Madras) were called as Presidency Banks. Allahabad Bank which was established in 1865 was for the first time completely run by Indians. Punjab National Bank Ltd. At the time of first phase the growth of banking sector was very slow. Between 1913 and 1948 there were approximately 1100 small banks in India. To streamline the functioning and activities of commercial banks, the Government of India came up with the Banking Companies Act, 1949 which was later changed to Banking Regulation Act 1949 as per amending Act of 1965 (Act No.23 of 1965). Reserve Bank of India was vested with extensive powers for the supervision of banking in India as a Central Banking Authority. After independence, the Government has taken most important steps in regard of Indian Banking Sector reforms. In 1955, the



# Antidiabetic and allied biochemical roles of new chromeno-pyrano pyrimidine compounds: synthesis, in vitro and in silico analysis

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**Abstract** Diabetes is embracing the human population in logarithmic fashion both in developed as well as developing countries. Aldose reductase is one of the important enzymes of polyol pathway of sugar metabolism in humans. Aldose reductase inhibition has been identified as one of the important target for developing novel antidiabetic agents. In this report, we present an effective synthesis of 7-(substituted phenyl) chromeno-pyrano [2,3-d]pyrimidine-6,8,10-(7*H*,9*H*,11*H*)-trione derivatives and demonstrate their aldose reductase inhibition potential in order to identify novel schemes for finding putative aldose reductase inhibitors. The antioxidant activity of all the synthesized compounds with negligible toxicity demonstrates the biological efficacy of the synthesized compounds. The in silico molecular docking and structural analysis of docked poses conducted in the current investigation sheds light on the structural rationale of the observed aldose reductase inhibition by all the newly synthesized compounds.

**Keywords** Chromeno-pyrano pyrimidine trione derivatives · Aldose reductase · Molecular docking · Antioxidant activity · Hemolytic activity

## Introduction

Diabetes mellitus is a disease affecting around 200 million people worldwide and the figure is anticipated to hit 350 million by the year 2025 (Wild et al. 2004). In diabetic condition, polyol pathway (generating sorbitol from glucose) contributes for metabolism of 30% sugar as compared to 3% in normal condition. Aldose reductase (AR) is one of the important enzyme of polyol pathway involved in conversion of glucose into sorbitol (Kinoshita and Nishimura 1988). Upregulation of AR has been attributed with pathogenesis of the diabetic complications such as neuropathy, kidney disease, retinopathy, and cataract. The intracellular high concentrations of sorbitol (a product of AR activity) has been linked with development of cataract, neuropathy, nephropathy and retinopathy. Therefore targeting the inhibition of AR activity has been proposed as a feasible approach in controlling diabetic complications (Brownlee et al. 1988; Alexiou et al. 2004). In the current situation there are two classes of structurally different aldose reductase inhibitors (ARIs). The first class comprises carboxylic acid ARIs such as, tolrestat (Sestanji et al. 1984), zenarestat (Ao et al. 1991), and ponarestat (Stribling et al. 1985), while the second class comprises of cyclic imides like sorbinil (Costantino et al. 1999), fidarestat (Fukushi et al. 1980), minalrestat (Malamas et al. 1994), and ranirestat (Asano et al. 2002). Besides their prescriptions by the

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## The study causes and prevalence of physical injuries in women Kabaddi players.

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### Introduction

This research aims to study causes and prevalence of physical injuries of women Kabaddi players participating at state level Kabaddi competitions.

### Methodology

Two hundred and forty women Kabaddi players (age range: 14-18 year) participated in state level Kabaddi state Championship in 2011 are studied. The competitions were held in kodoli. The main instrument of research was a questionnaire designed and used by Kazeme and Pieter (2004) in a study on sports injuries. This questionnaire included personal information, injury type, injury region, injury mechanisms, and other necessary data. The researcher gathered the data through this questionnaire. For the analysis of data descriptive statistics and Chi-square tests were used. The research was of the descriptive type. The level of significance for this research was  $p < 0.05$  and the software package SPSS 12 was used for statistical estimations.

### Discussion on Findings

In general, the results of the present study indicates that the prevalence of injuries in the women Kabaddi players has been very high and most of the injuries are in the lower extremities and are of contusion and sprain types. Further, the findings showed that the major cause of injury was the opponent's technical foul, and that the most prevalent mechanism of injury sustenance was Dive/Dash.

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