

October-2019 Special Issue – 199





## INDEX

No.	Title of the Paper	Author's Name	Page No.
1	Higher Education in India	Mr. A. R. Maniyar	5
2	Combined Approach of Conventional Classroom and New Age Teaching Methods for Quality Enhancement in Higher Education	K.V.Bartakke , Md. Asef Iqbal	8
3	Teaching Learning Process	Dr. Amolsingh Gautam	11
4	Higher Education in Rural India : Challenges and Strategies	Dr. Shamsundar Gulbhile	13
5	Flipped Classroom Approach : A New Method of Technology Assisted Teaching-Learning	Dr. L. V. Padmarani Rao	22
6	Role of Teacher with Multiple Challenges in Higher Education	Dr. S. S. Sasane, Dr. Arjun Galphade	27
7	Biometrics Authentication : Fingerprint Recognition in E-Exams & E-Learning Environment	Dr. S. V. Pote	29
8	Student Participation in Attainment of Graduate Attributes	H.U. Joshi, S.V.Thakur, G.M. Dhond	37
9	Thrust Areas of Research in Computer Science	Asaram Janwale, Suhas Kale, Gokul Shinde	40
10	Role of ICT in Teaching, Learning Processes of Education, Faculty and Staff Development	Mayur Deshmukh, Manjusha Deshmukh, S. S. Undare	44
11	New Methods of Teaching and Technology Assisted Teaching Learning	Mukesh Jadhav	51
12	The Role of Computer in Research	Dr. R. K. Kale	55
13	A Study on Difficulties and Constrains in Maintainance in Quality Education	Prof. R. V. Bansude	59
14	Mixed Ligand Complexes of Cadmium Metal Ion with Ibuprofen Drug and Amino Acids in Aqueous Medium	Ramesh Ware, P.P.Ghumare, D.B.Jirekar, Shailendrasingh Thakur	64
15	Mixed Ligand Complexes of Cadmium Metal Ion with Diphenhydramine and Amino Acids in Aqueous Media	Shailendrasingh Thakur, H.U.Joshi, M.A. Sakhare , Ramesh Ware	71
16	Use of ICT in Teachng and Learning Process	Dr. S.B. Bhanje, Prof. U.G. Nadargi	78
17	To Study the Role of Different Softwares in Chemical Science Research : A Review	S. V. Gayakwad, S. B. Maulage, P.R. Khakre, P.K. Vibhute, D. S. Wankhede	82
18	ICT in Higher Education for Teaching, Learning and Evaluation	S. V. Patil, A.K. Sathe	90
19	Empowering the Teaching Learning Process Through use of Modern Technology	S.B. Maulage, S.V. Kshirsagar, R.G. Machale, S. V. Gayakwad	93
20	New Methods for Effective Teaching and Learning Process in HEIs	S.V.Kshirsagar, U.R. Aghav	96
21	Regression Studies of Binary Complexes of Mandelic Acid	Shaikh Abdul Rahim, Asgar Jafar Khan, Mazahar Farooqui	99
22	Use of ICT in Effective Teaching and Learning	Shivaji Shinde	104
23	Studies of Complexation of Transition and Rare Earth Metal Ions with Novel Schiff Base : Thermodynamic Aspect	Shoeb Peerzade, Ramesh Ware, Sahebrao Naikwade, Shailendrasingh Thakur	107
24	Comparative Studies on Conventional and Recent Trends in Plant Sciences	Smita Basole , Sunita Bhosle	112



## **Comparative Studies on Conventional and Recent Trends in Plant Sciences**

**Smita Basole and Sunita Bhosle**

Balbhim Arts , Science And Commerce College , Beed. -431122 (Maharashtra)  
Smitabasole21@gmail.com

### **Abstract:**

*Botany – study of plants developed as herbalism , deals with study of plants for their medicinal uses. The botanical knowledge is the oldest stream of science. Botany originated in prehistoric period , the Holocene period far back as 10,000 years ago. Early plant exploration have been started in ancient text back to 1100 B.C. in India. In 19<sup>th</sup> and 20<sup>th</sup> centuries new techniques were developed for study of plants, including methods of optical microscopy electron microscopy, chromosomal analysis , plant chemistry structure and functions of basic bio molecules . in last two decades of 20<sup>th</sup> century botanists exploited the techniques of molecular genetics and DNA sequences to classify the plants.*

**Key words :** systematic , herbalism genomics, botanical gardens

### **Introduction:**

Botany, phytology, is the science of plant life and a branch of biology. The term botany" comes from the Ancient Greek word *Botanē* - meaning "grass", or "fodder"; the term Botany is derived from *Boskein*, "to feed" or "to graze". Botanical studies traces its root back in ancient Greece specifically Theophrastus (371 – 287 BC) he describe many plants considering their habitate and is widely regarded as "Father Of Botany". His major work constitute the most important contribution to botanical sciences. Almost seventeen centuries later another great work was contributed by Greek physician and pharmacologist **Pedanius Dioscorides** , describe plants as source of medicines. The five valume encyclopedia *De Materia Medica* about herbal medicine written in the first century. In the mid of 16<sup>th</sup> century medicinal plants were collected and grown in protected region to explore the population. These places are then progressed as Botanical Gardens. Initially botanical gardens were founded in the Italian universities- The Padua Botanical Garden (1545)is consider to be the first, still present in its original location..Botanical gardens get established much later to northern Europe. Through out this period , botany firmly remained retainer to medicine and medicinal plants. Since from mid 1960s advances in understanding the physiological processes of plants occurred. These developments , coupled with new methods for measuring stomatal aperatures , statistical analysis, rational experimental design and data analysis in botanical research.

During 20<sup>th</sup> century development in plant biochemistry have been driven by modern techniques such as spectroscopy, chromatography electrophoresis etc. With the invention of molecular scale biological approaches of genomics , proteomics and metabolomics functions of plants can be subjected to detailed experimental analysis. These technologies enables the use of plant cell and microorganisms to synthesize pesticides , antibiotics and other valuable product. Similarly producing genetically modified crop plants to improved yield can be achieved . Identification of plants and some economical important plants by DNA barcoding is the recent trend in plant research. The study of plants is very important and vital because they are basic platform for sustenance of life on the Earth.





### Conclusion:

Botanists examine anatomical as well as morphological characters. Botany also deals with functions and processes within plant cells, organelles, parts whole plant body. At every steps a botanist concern with collection, identification, classification physiological analysis, phytochemical screening and ethnobotanical study etc. If there is appropriate combination of conventional Knowledge and advance techniques we can mate many basic problems of human beings and uplift their life style.

### References:

1. Acharya, Deepak; Anshu, Shrivastava (2008). *Indigenous Herbal Medicines: Tribal Formulations and Traditional Herbal Practices*. Jaipur, India: Aavishkar Publishers. ISBN 978-81-7910-252-7.
2. Addelson, Barbara (December 2003). "Natural Science Institute in Botany and Ecology for Elementary Teachers". Botanical Gardens Conservation International. Archived from the original on May 23, 2013. Retrieved June 8, 2013.
3. Anderson, Edward F. (2001). *The Cactus Family*. Pentland, OR: Timber Press. ISBN 978-0-88192-498-5.
4. Butz, Stephen D. (2007). *Science of Earth Systems* (2 ed.). Clifton Park, NY: Delmar Cengage Learning. ISBN 978-1-4180-4122-9.
5. Judd, W.S.; Campbell, C.S.; Kellogg, E.A.; Stevens, P.F.; Donoghue, M.J. (2002). *Plant Systematics, a Phylogenetic Approach*. Sunderland, MA: Sinauer Associates. ISBN 978-0-87893-403-4
6. Sussex, I. (2008). "The Scientific Roots of Modern Plant Biotechnology". *The Plant Cell*. **20** (5): 1189–1198. doi:10.1105/tpc.108.058735. PMC 2438469. PMID 18515500.  
 \*Willis, A.J. (1997). "The Ecosystem: An Evolving Concept Viewed Historically". *Functional Ecology*. **11** (2): 268–271. doi:10.1111/j.1365-2435.1997.00081.x.
7. Woese, C.R.; Magrum, W.E.; Fox, L.J.; Wolfe, G.E.; Woese, R.S. (August 1977). "An Ancient Divergence Among the Bacteria". *Journal of Molecular Evolution*. **9** (4): 305–