

बा.ना.बांदोडकर विज्ञान महाविद्यालय, ठाणे.

# संयुजा



NAAC RE-ACCREDITED 'A' Grade  
Best College University of Mumbai  
Selected For FIST 'O' Level

२०१३-२०१४





Long Jump - college sport event.



Running - college sport event.



NTSE Exam.



Literary Program (debate).



Teacher's Training Workshop  
(Principal guiding the teachers).



अंधश्रद्धा निर्मूलन (अॅड. मुक्ता दाभोलकर यांचे चिंतन).



जागर जाणीवांचा राज्यशासनाचे पारितोषिक स्वीकारताना  
प्रा.माळी, प्रा.आठवले, प्रा.धुमाळे आणि विद्यार्थी.



Physics Carnival.





Vidya Prasarak Mandal's

**B.N.Bandodkar College of Science, Thane**

NAAC RE-ACCREDITED 'A' GRADE

# Sanyuja

**2013-2014**

## MAGAZINE COMMITTEE

**Dr. (Mrs.) M.K.Pejaver**  
(Principal & Chairperson)

**Prof. S. G. Bapat**  
(Co-ordinator of Magazine Committee)

(Committee Members)

**Prof. Mrs. S. M. Phatak**

**Dr. (Mrs.) M. Saha**

**Prof. M.T.Wankhede-Barsagade**

**Prof. S. S. Meshram**

**Dr. (Mrs.) P. N. Kurve**

**Prof. Mrs. U. B. Gokhe**

**Prof. S. K. Bhosale**

**Dr. Mrs. Pooja Jagasia**

**Prof. P. S. Mali**

**Prof. Mrs. R. Thomas**

**Prof. A. S. Pardhi**

**Prof. A. D. Athawale**

**Prof. B. S. Dhumale**

**Prof. Miss. V. V. Parkar**

**Prof. Mrs. J. M. Pawar**

**Prof. Ms. H. K. Sonkamble**

**COVER PAGE BY**

**Prof. N. D. Mandge**

**NATURE PHOTOGRAPHS BY**

**Prof. N. D. Mandge**

**Mr. Samrat Tambat**

**Mr. Tushar Badgujar**

**SPECIAL THANKS**

**Dr. R. P. Athalye (Vice Principal)**

**Prof. (Mrs.) M. M. Ranade**



# संपादकीय

सर्व वाचकांस नववर्षाच्या हार्दिक शुभेच्छा, नेहमी प्रमाणेच यावर्षाचा 'संयुजा' अंक छापील तसेच e-magazine या स्वरूपात विद्या प्रसारक मंडळाच्या संकेत स्थळावर उपलब्ध करून देत आहोत.

यावर्षी भारताचे प्रख्यात गणिती, भास्कराचार्य यांची ९०० वी जयंती आहे. त्या निमित्त विविध कार्यक्रमांचे आयोजन करण्यात येत आहे. आपल्या विद्या प्रसारक मंडळातर्फे आंतरराष्ट्रीय परिषदेचे आयोजन होत आहे (१९/९/२०१४ - २१/९/२०१४). या निमित्ताने आजच्या तरुण पिढीस व एकंदरच सर्वांना आपल्या उज्ज्वल गणिती परंपरेची जाणीव होईल व त्यातून स्फूर्ती घेऊन गणित विषयक संशोधन व शिक्षण याकडे तरुणांचा ओढा वाढेल, ही अपेक्षा.

नेहमी प्रमाणेच यंदाही आपल्या महाविद्यालयात विविध प्रकल्प राबवले गेले, विविध कार्यक्रम आयोजित केले गेले त्याचा गोषवारा संयुजाच्या प्रस्तुत अंकात देण्यात आला आहे.

अंकातील लेख निवडताना साहित्य, शास्त्र व मनोरंजन अशा तीनही अंगांचा समतोल साधण्याचा प्रयत्न केला आहे. विशेष आनंदाची गोष्ट म्हणजे या तीनही विषयांवर भरपूर लेख आपल्या महाविद्यालयातील विद्यार्थ्यांनी उपलब्ध करून दिले. हे आपल्या महाविद्यालयातील विद्यार्थ्यांचे विकसित होणारे व्यक्तिमत्त्व दर्शवते. विद्यार्थ्या बरोबरच प्राध्यापकांनीही साहित्य, छायाचित्रे पुरवून बहुमोल सहकार्य केले त्याबद्दल त्यांचे आभार. आपणा सर्वास हा अंक पसंतीस पडेल अशी अपेक्षा.

संयुजाच्या निर्मितीत प्राचार्या डॉ.माधुरी पेजावर, उपप्राचार्य डॉ.रघुनंदन आठल्ये, उपप्राचार्य हरिभाऊ काटकर, पर्यवेक्षिका सौ.पुष्पा कृष्णन तसेच नियतकालीक समितीचे सर्व शिक्षक, विद्यार्थी प्रतिनिधी व कार्यालयातील सहकारी यांची मोलाची मदत झाली. त्याबद्दल त्यांचे मनःपूर्वक आभार.



**प्रा. सुरेंद्र बापट**  
co-ordinator  
magazine Committee



## Principal's Desk

Education takes you to great heights. Diverse people from varied sectors are discussing about education in India. Many discussions / Seminars / Conferences are conducted on current education system. The education system is undergoing change to compete with International standards. It is evident that a new era is bound to arise.

Very soon the effect of globalization will be seen on education and thus I feel that our college students should equip themselves to compete with the same.

In job market there is tough competition, to face this competition we have many academic programmes as well as co-curricular activities.

We plan our activities according to our vision and mission which is "Imparting Quality Education in Science" and "To Mould students in to Rational Thinkers, Competent workers and Socially aware citizens". Thus, we believe in developing overall personality of our students.

In our academic plan there are 12 departments and total 25 courses of which 11 courses are at undergraduate, while 4 courses at Post-graduate level. We also conduct 5 courses of M.Sc. (by research) and 5 Ph.D. programmes.

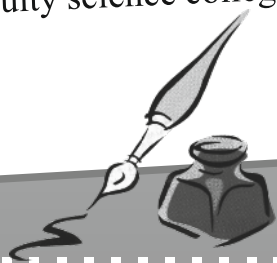
Our yearly calender is ready in the month of April and displayed on the website before the academic year begins. We conduct many activities like sports, cultural, essay writing, quiz competitions and many more other programmes. In addition we cater for inculcating the research attitude and aptitude in our students. They are guided to undertake mini research projects, in writing research papers and presenting them. We publish e-journal named JBNC. Research conferences at State / National level are organized every year on various topics related to the syllabi. Journal club & movie club activities are conducted, so that students get exposed to good research publications.

Along with academic programmes, we run many short term, skill and job oriented programmes too. NCC, NSS and DLLE units are actively functional.

Our students bring laurels to the college by getting ranks in academics at University level as well as winning a number of prizes in extra curricular activities.

Our Institute is all geared up to face the impact of globalization with an "A" grade by NAAC, the Best college award by University of Mumbai and FIST grant at National level. We are proud to say that our B.N.Bandodkar College of Science is the only single faculty science college running the courses from XI<sup>th</sup> standard till Ph.D.

Principal  
**Dr. (Mrs.) Madhuri K. Pejaver**





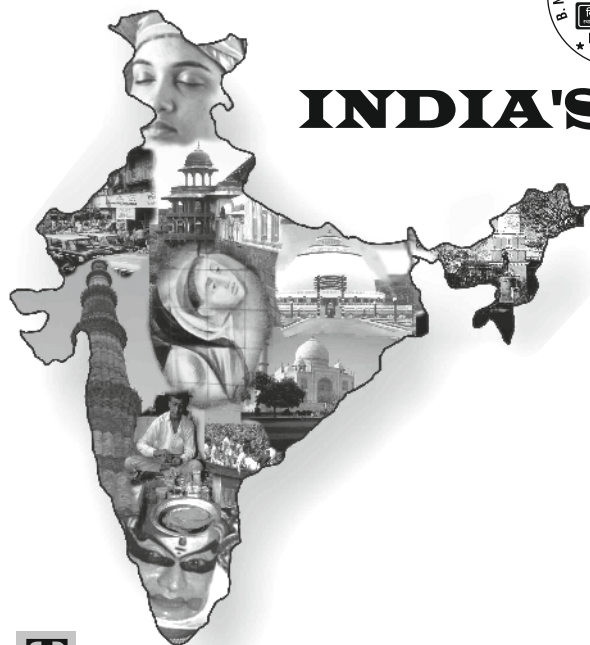
# अनुक्रमिका .....



1. India's Mars Mission	5	30. Tiffin May Kya	37-38
2. कविता : कहाणी मुंबईची	6	31. Eratosthenes & radius of Earth	39
3. Swami Vivekananda	7	32. मैत्री आपली	40
4. Poem : Life- A Precious Gift	8	33. विनोद	41
5. पंक्तिथॉ	9	34. Status of women	42
6. पर्यावरणस्नेही परंपरा	10	35. Good Thoughts	43
7. कविता : मुलं आणि मुली	11	36. कविता : दुःखी होना नही, हम होंगे All Pass	44
8. भारताचे राष्ट्रपती भवन	12	37. Historical Introduction of Gravitation	45
9. कविता : जीवन	13	38. Poem : Mother, आझादी के पहले, आझादी के बाद	46
10. Happy Profession, Poem : Value of ..., भान	14	39. Impact in solar... Poem: Beautiful Smile	47
11. प्रवासवर्णन - सफर गुहागरची	15-17	40. Giving Mass to Elementary Particles!	48-49
12. कविता : आई-वडिलांना विसरु नका जिंकणारा विरुद्ध हारणारा, याँदे	18	41. Scientific Attitude in Life	50
13. Student Life, Mobile Funda	19	42. कविता : प्रेम, शेरो शायरी	51
14. Life is Love Enjoy it, Human Relation	20	43. सर्वासाठी योग	52-53
15. Know Your Worth	21	44. शोध आनंदी - जीवनाचा	54
16. How does Lighting occur	22	45. Amazing Mumbai	55
17. कविता : कम्प्युटर के जाल में, जिंदगी	23	46. Trees, Our Best friends	56
18. हंसती शायर खोपडी, कविता : घन ओंथबून आले	24	47. कविता : आई, एका पहाटे, ते आठ तास, प्रेम	57
19. कविता : कळत नाही खरंच, चिंब पावसाळी	25	48. Solid State Lighting	58
20. भारतरत्न प्रो.सी.एन.राव, प्रभावी, लोकप्रिय शिक्षक	26-27	49. The king Serpents	59
21. कविता : येणारे क्षण, धैर्य, माझी माय	28	50. शेरो शायरी	60
22. हास्यतुषार	29	51. Bid Good Bye sadness..... कविता : बाप	61
23. Self Confidence, Poem : Song of life	30	52. Loneliness	62
24. कविता : लहानपण कशाला म्हणतात, नव्या नजरेने जीवनाकडे बघ	31	53. My best friends, Save Girl	63
25. कविता : प्रेमातलं राजकारण, आई	32	54. जगावे कसे ?	64
26. नॅनोदय	33	55. Unmanned Aviation.....	65-67
27. विद्या विनयेन शोभते कविता : आईचा जोगवा	34	56. Student's Council	68
28. हसना जरूरी है	35	57. Junior College H.S.C. Results	69
29. कविता : बायको, विश्वास ठेव, विद्यार्थी हा नवयुगाचा	36	58. T.Y.B.Sc. Results	70-71
		59. Endowment Prize	72-76
		60. Achievements of teachers	77-78
		61. Reports	79-100







## INDIA'S MARS MISSION !

**T**he Mars Orbiter Mission (MOM), informally called Mangalyaan, is a Mars Orbiter launched into Earth's orbit on 5 November 2013 by Indian Space Research Organisation (ISRO).

The Mars Orbiter Mission probe lifted-off from the first launched pad at Sriharikota, Andhra Pradesh near Chennai, using Polar Satellite Launch Vehicle (PSLV) rocket C25 at 2:38 p.m. on 5 November 2013. The launch window was approximately 20 days long and started on 28 October 2013. The MOM probe spent about a month in Earth orbit, where it made a series of seven altitude raising orbital manoeuvres before trans Mars injection on 30 November 2013.

It's India's first interplanetary mission!

One of the main objectives of the first Indian mission to Mars is to develop the technologies required for design, planning, management and operations of an interplanetary mission.

Following are the major objectives of the mission :

### A. **Technological Objectives :**

- Design and realisation of a Mars orbiter with a capability to survive and perform Earth bound manoeuvres, cruise phase of 300 days. Mars orbit insertion/capture

and on-orbit phase around Mars.

- Deep space communication, navigation, mission planning and management.
- Incorporate autonomous features to handle contingency situations.

### B. **Scientific Objectives :**

- Exploration of Mars surface features, morphology, mineralogy and Martian atmosphere by indigenous scientific instruments.

The current plan is for insertion into Mars orbit on 24 September 2014, approximately 2 days after the arrival of NASA's MAVEN orbiter. MOM will be set on a highly elliptical orbit around Mars, with a period of 76.7 hours and a planned periapsis (closest distance) of 365 km (227 mi) and (farthest distance) apoapsis of 80,000 km (50,000 mi)

If this Mar's mission will be successful, ISRO would become the fourth space agency to reach Mars. after the soviet space program, NASA and European Space Agency.

The spacecraft is being currently monitored from the spacecraft control centre at ISRO Telemetry, Tracking and Command Network (ISTRAC) in Bangalore with Support from Indian Deep Space Network (IDSN) antennae at Byalalu.

It is difficult to predict all the benefits that might accrue from something like the Mars mission, some of which may be intangible but nevertheless vital for the country in the long run. The most important of such benefits could well be to fire the imagination of young minds in this country, getting them to dream about possibilities for tomorrow.

**Kiran G. Urmade**  
F.Y.B.Sc. (IT)



## कहाणी मुंबईची

एक शहर आहे जगात  
म्हणतात ते फार वेगळ आहे,

जे मी अनुभवले तेच  
तुम्हाला सांगतो आहे,  
प्रत्येकाची सांगायची एक  
वेगळीच पद्धत आहे,  
ही मुंबई आहे इथे असेच असते.

सकाळी उठणे हे सुद्धा एक काम आहे  
रात्रीची झोप हा फक्त काल्पनिक आराम आहे  
दात घासणे, आंघोळ करणे यासाठी ही  
पुरेसा वेळ नाही

नाश्ता करत असतांना तयारी करणे  
यापेक्षा मजेशीर खेळ नाही  
देवासमोर एक मिनिट हिच आमची  
देवपुजा असते  
ही मुंबई आहे इथे असेच असते

बिल्डींगचे गेट सोडले की रांगांची  
रांग लागते

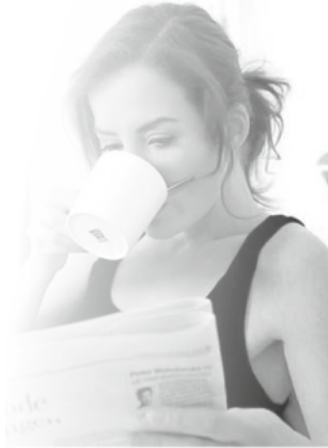
रिक्षा, बस, ट्रेनचे तिकीट अगदी  
काहीही कारण चालते

रस्त्यावरून चालणारा प्रत्येक माणूस  
धावत असतो  
मिनिटाला शंभर पाऊले असा  
इथे नियम असतो  
रस्ता आपल्याच बापाचा समजून  
चालायचे असते  
ही मुंबई आहे इथे असेच असते

शिव्या देत शिव्या खात  
प्लॅटफॉर्मवर पोहचायचे असते  
मुंग्यांमधली साखर शोधावी तसे  
मित्रांना शोधायचे असते  
ट्रेनमधले मित्र मैत्रिला जागणारे असतात.  
एकामुळे दुसऱ्याला जागा मिळेल असे  
जागा अडवून बसतात

रिझर्वेशन नसूनही प्रत्येकाची जागा  
फिक्सड असते  
ही मुंबई आहे इथे असेच असते

घरी पोहचण्याचा विचार फार आनंददायी असतो  
पण पुन्हा ट्रेन बस हा विचारच



मनाला टोचत असतो  
आईच्या हातचा चहा हेच घरी  
पोहचल्याचे समाधान  
तिची सिरीयल माझी मॅच यासाठी रिमोटची ताणाताण  
ब्रेक वगळून एकाच वेळी तीन  
सिरीयल पहायची असते  
ही मुंबई आहे इथे असेच असते  
जेवणानंतर लगेच झोप एक वाईट  
सवय आहे  
म्हणूनच बाहेर फेरफटका आता  
आमची गरज आहे

एका तासात चाळीतल्या नव्या  
जुन्यांची खबर होते  
आपणही याचा एक भाग आहोत  
याची गोड जाणीव होते  
झोपण्यासाठी नव्हे तर सकाळी  
उठण्यासाठी घरी परतायचे असते  
ही मुंबई आहे इथे असेच असते

असाच हा नित्यक्रम सोमवार ते शुक्रवार असतो.  
बाकीचे दोन दिवस आमचा  
दिनक्रम वेगळा असतो

जे पाच दिवस भेटले नाहीत असे  
मित्र भेटतात  
मग थिएटर, पब, बिचेस, टेरेस सगळी  
ठिकाणे गाजवतात  
आईला एक दिवस आराम हे बाहेर  
जेवण्याचे कारण असते  
ही मुंबई आहे इथे असेच असते

असा हा आठवडा त्याचेच महिने घडतात,  
दिवसातील चोविस तासही कमी पडतात,  
अशी ही श्रमाची बँक जिथे तक्रार  
काऊंटर नाही,  
मैत्रीचे व्याज मिळत राहते पण  
जास्त नोटा मात्र नाहीत,  
शोधण्यासाठी सगळे आहे  
फक्त वेळ मात्र मिळत नसतो  
ही मुंबई आहे इथे असेच असते.....

ऋतुजा शशीकांत निखरंगे  
S.Y.B.Sc. (A)





# SWAMI VIVEKANANDA



**S**wami Vivekananda was born on 12<sup>th</sup> January 1803. His name was Narendra Nath Datta. He was an Indian Hindu Monk and Chief disciple of the 19<sup>th</sup> Century Saint RamaKrishna. He was a Key figure in the introduction of the Indian Philosophies of Vedanta and Yoga to the western world and is credited with raising interfaith awareness, bringing Hinduism to the Status of a major world religion during the late 19<sup>th</sup> Century. He was a major force in the revival of Hinduism in India, and Contributed to the concept of nationalism in Colonial India. Vivekananda founded the RamaKrishna Math and the RamaKrishna Mission. He is perhaps best known for his inspiring speech which began, "Sisters and brothers of America..., in which he introduced Hinduism at the parliament of the World's Religions in Chicago in 1893.

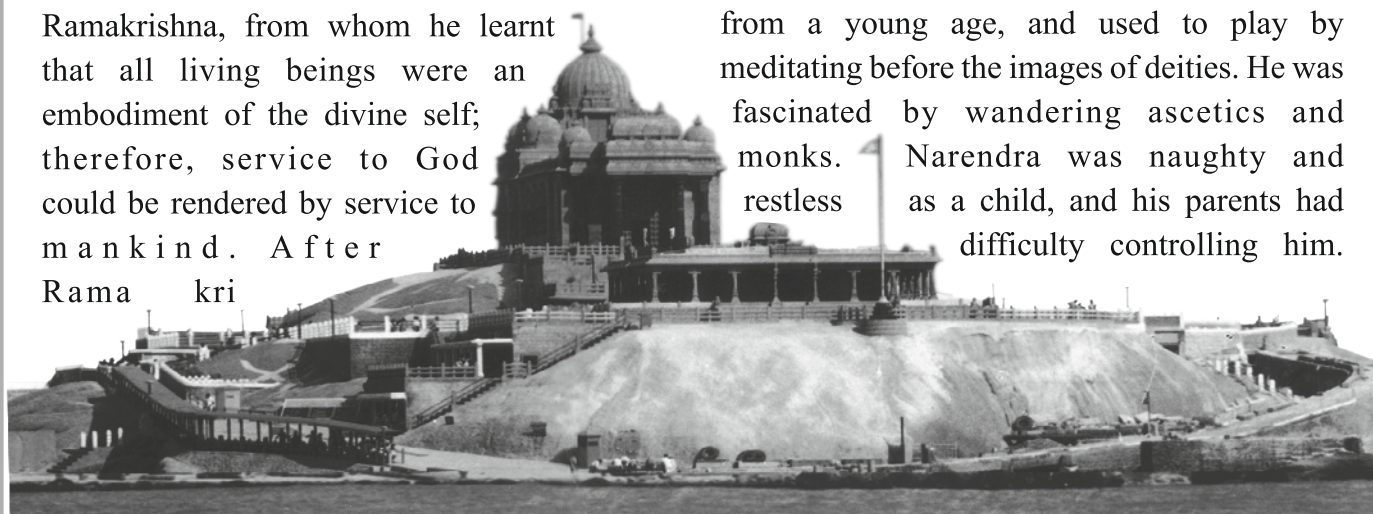
Born into an aristocratic Bengali family of Calcutta, Vivekananda was inclined towards spirituality. He was influenced by his guru, Ramakrishna, from whom he learnt that all living beings were an embodiment of the divine self; therefore, service to God could be rendered by service to mankind. After Rama kri

shna's death, Vivekananda toured the Indian subcontinent extensively and acquired firsthand knowledge of the conditions prevailing in British India. He later traveled to the united states, representing India at the 1893 parliament of world Religions.

Vivekananda conducted hundreds of Public and private lectures and classes, disseminating tenets of Hindu philosophy in the united states, England and Europe. In India, Vivekananda is regarded as a patriotic saint and his birthday is celebrated as National Youth Day.

Vivekananda's Mother Bhuvaneshwari Devi was indebted for the efflorescence of his knowledge. Vivekananda belonged to a traditional Bengali Kayasta family and was one of nine Siblings. His father, Vishwanath Datta, was an attorney at the Calcutta High Court. Durgacharan Datta, Narendra's grandfather, was a Sanskrit and persian scholar who left his family and became a monk at age of twenty-five. Narendra's mother, Bhuvaneshwari Devi, was a devout housewife. The progressive, rational attitude of Narendra's father and the religious tempartment of his mother helped shape his thinking and personality.

Narendra was interested in spirituality from a young age, and used to play by meditating before the images of deities. He was fascinated by wandering ascetics and monks. Narendra was naughty and restless as a child, and his parents had difficulty controlling him.





His mother said, "I prayed to Shiva for a son and he has sent me one of his demons".

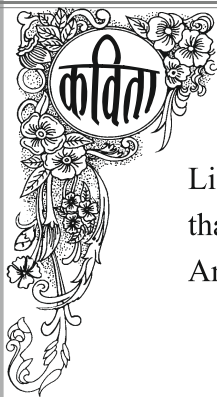
Inspiring thoughts of swami Vivekananda on faith and strength as submitted by professor. V.Viswanadham are the history of a few men who had faith in themselves. That faith calls out divinity within. You can do anything, you fail only when you do not strive sufficiently to manifest infinite power. As soon as a man or a nation loses faith, death comes.

The old religion said that he was an atheist who did not believe in God. The new religion says that he is an atheist who does not believe in himself. The remedy for weakness is not brooding over weakness, but thinking of strength. Teach men of the strength that is already within them. This is the great fact. Strength is life ; weakness is death. Strength is felicity, life is eternal, immortal; Weakness is mortal strain and misery, weakness is death.

The thoughts of Vivekanand are very inspiring and relevant in present context.

**Vaishnavi I. Harad**

F.Y.B.Sc. (CBZ)



## LIFE - A PRECIOUS GIFT



Life is not like a flower,  
that blooms in morning,  
And ends in evening

But life is indeed like a,  
fragrance of flower,  
that fills sweet smell  
of happiness in life of  
others.

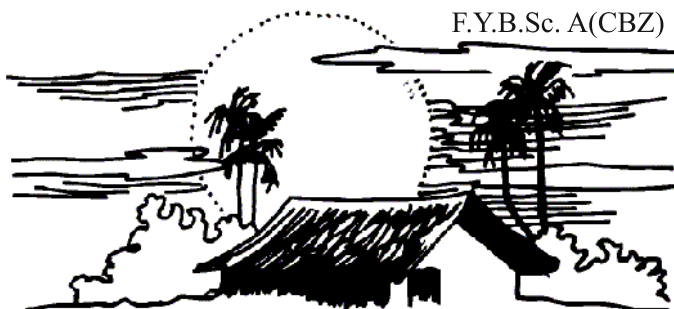
End it by running behind ones hopes,  
and be in sorrow.

Life is a gift, don't waste it,  
Use it to bring happiness  
in life of your  
loved ones and others,  
And also yourselves.

**Rakshakaur R. Udyan**

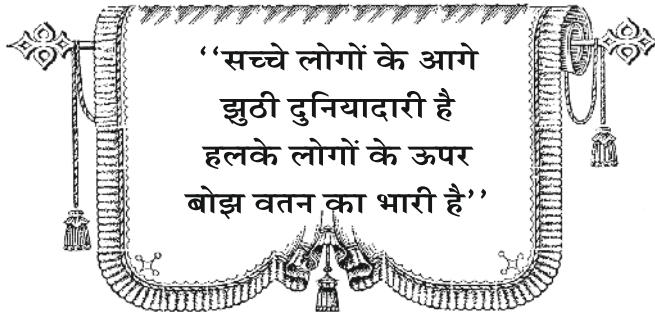
F.Y.B.Sc. A(CBZ)

One says, life is what you make of it,  
Indeed true !  
So, it is our choice to utilize it to give  
happiness to others and be happy,  
or else,

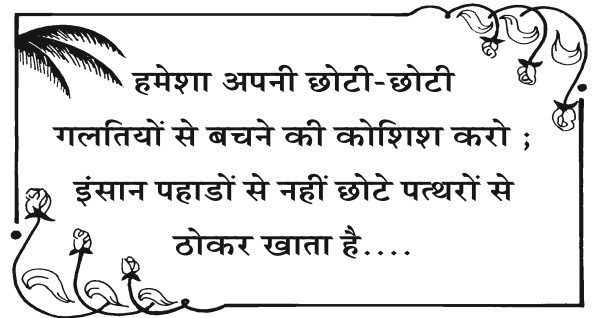




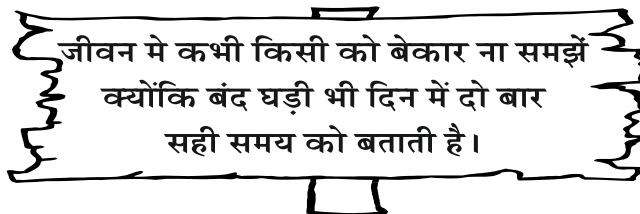
## मन की बात....



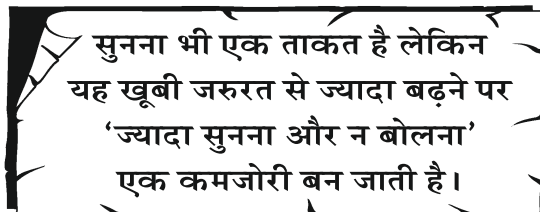
## प्राणवान पंक्ति....



## सही सोच....



Never chase love, affection or attention  
If it isn't given freely by another person,  
it isn't worth having.

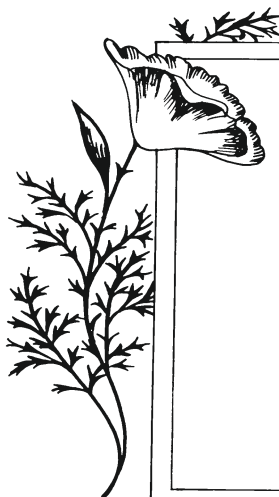


## दोस्त बनाएँ....

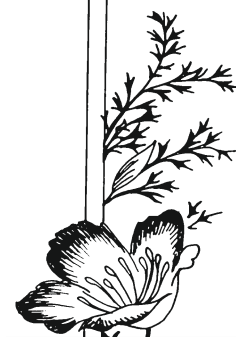
अलग-अलग मूड और वक्त के हिसाब से दोस्तों में भी वेरायटी रखें, साथ ही सभी दोस्तों के लिए बराबर वक्त भी निकाले उन्हें बराबर सम्मान दें।

दोस्त बनाते वक्त सावधानी बरतें और जब दोस्ती कर लें तो उसे ईमानदारी के साथ निभाएँ, कोशिश करें की आप भी अच्छे दोस्त बन सके

## मूल्यवान चीजें...



जीतने के लिए कोई चीज है तो - प्रेम  
पीने के लिए कोई चीज है तो - क्रोध  
खाने के लिए कोई चीज है तो - गम  
दिखाने के लिए कोई चीज है तो - दया  
लेने के लिए कोई चीज है तो - ग्यान  
रखने के लिए कोई चीज है तो - इज्जत  
फेकने के लिए कोई चीज है तो - मोह  
कहने के लिए कोई चीज है तो - सत्य



पूनम मोहनराम कन्नौजिया  
S.Y.B.Sc.(MS)



## पर्यावरणस्नेही परंपरा !

### कृपाण :-

अनेक जाती धर्मांना एकाच छत्राखाली घेऊन वावरणारी संस्कृती म्हणजे भारत! शीख संस्कृती ही याच महान परंपरेचा एक अविभाज्य घटक. ही संस्कृती वीरांची संस्कृती आहे, म्हणूनच यात कृपाण हे पवित्र मानले जाते. प्रत्येक शीख बांधव ते धारण करतो.



### शंख :-

शंखासुराच्या वधाच्या वेळेस देवाने त्याला वरदान दिले आणि त्याने पुजेमध्ये मान पटकावला. त्याच्याशिवाय विष्णूची पूजा अर्धवट मानली जाते. त्याच्या वाजण्याने शंभूच्या हृदयात थरकाप उडतो. शंख वादनाने वातावरणातीलही विषारी जीवजंतू मरण पावतात, असे आधुनिक विज्ञान सांगते. कानाला लावल्यास त्यातून ओंकाराचा नाद ऐकू येतो. म्हणूनच भारतीय संस्कृतीने त्याला देवघरात स्थान दिले.



### कलश :-

कलशाच्या मुखाजवळ ब्रह्मा, विष्णु आणि महेश या त्रिमुर्तीचा वास असतो असे मानले जाते. कोणत्याही शुभकार्याची सुरुवात कलश ठेवून केली जाते. त्यात पाणी, दुर्वा, दक्षिणेची नाणी, अक्षता असतात आणि वरच्या बाजूला आंब्याचा टाळ व नारळ असतो ही समृद्धीची प्रतिके आहेत, त्यामुळे कलशात समृद्धी एकवटल्याचे मानले जाते.

### तुळस :-

भारतीय संस्कृतीचे व्यवच्छेदक लक्षण म्हणजे घरासमोर असणारी तुळस, तुळस म्हणजे पावित्र्य. तुळशीची चार पाने रोज खाल्ली तर ती व्यक्ती निरोगी राहते, असे आयुर्वेद सांगते.



### पाऊल :-

“चरति चरतो भग” म्हणजे चालणाऱ्याचे भाग्य चालते. भरपूर भ्रमंती करणारी व्यक्ती चतुर व विद्वान होते. त्या व्यक्तीला प्रत्यक्ष जगाची भरपूर माहिती मिळते. किंबहुना म्हणूनच आपल्या संस्कृतीमध्ये व्यक्तीच्या पायाला हात लावून नमस्कार केला जातो. पायाला चलनवलनाचे प्रतिक मानले जाते.



### मेणबत्ती :-

आपल्यातील श्रेष्ठ कोण यावरून धैर्य आणि आत्मविश्वास या दोन्ही मेणबत्त्यांचे जोरदार वाद होतात. त्यावेळेस वाऱ्याची एक जोरदार झुळुक येते आणि दोन्ही मेणबत्त्या विझतात. एक लहान मुलगा त्या खोलीत येतो. दाटलेला अंधार पाहतो आणि लगेच पेटत्या मेणबत्तीने दोन मेणबत्त्या पेटवतो. त्यावेळेस धैर्य आणि आत्मविश्वास त्या मेणबत्तीला विचारतात, ‘तू विझून कसे चालेल?’ तुझे नावच आहे ‘आशा’ हीच आशा जगवण्यासाठी ख्रिश्चन बांधव येशूसमोर मेणबत्ती तेवत ठेवतात.



**कासव :-**

अनेक देवळांमध्ये प्रवेश करताना प्रथम कासवाला वंदन करावे लागते. लहानपणीच्या कासवाच्या गोष्टीतून 'संथपणे सातत्यपूर्ण' हा यशाचा मंत्र सांगून जाते. त्याचे असणे शुभ मानले जाते. अगदी आजसुद्धा कासव जिथे असते, तिथले पाणी प्रदूषित नसते, अशी ही आपली पर्यावरणस्नेही परंपरा !

**शुभदा प्रमोद दळवी**

## मुलं आणि मुली

“मी मुलींना मुलांबद्दल तुमचा काय विचार आहे” असे विचारले ?

तर भरपूर मुलींचे उत्तर असे आले,  
मुले ही “टपोरी असतात, खोटारडी असतात  
आणि सर्वात जास्त म्हणजे मुले ही सगळी  
सारखी असतात”

खरं तर “मुले ही सगळे सारखी नसतात” ....

“मुली Hurt झाल्या, कि ढसाढसा रडतात,  
पण मुलांना Hurt झालं कि, तोंडावर दुःख  
न दाखवता कुठेतरी एकांतात नाहीतर रात्री अंथरुणात  
रडतात” .....

“पण मुलींना मात्र मुलं वाईटच दिसतात” ....!!

प्रेमासमोर शान वाढावी म्हणुन मुलं किती झोल  
करतात,

मात्र तिने धोका दिल्यावर मित्रांकडून  
घेतलेलं उसनंच फेडत बसतात...

“पण मुलींना मात्र मुलं वाईटच दिसतात” ....!!

मुली स्वतः नीट अभ्यास करुन चांगले गुण  
मिळवतात, पण

मी फक्त टाईमपास करत होते असं म्हणुन,  
मुलांच्या अभ्यासाची वाट लावतात,  
कारण, “मुलींना वाटतं,



“सगळी मुलं सारखीच असतात” ....!!

“ती गेली तर जाऊ दे दुसरी शोधू,  
असं फक्त मित्रांच्या तोंडावर म्हणतात,  
पण एकांतात बसुन तिच्या आठवणीत रडतात,  
आणि कोणी पाहिल्यावर “काय नाय रे डोळ्यात  
कचरा गेला म्हणुन पाणी आलं” असं म्हणणारी  
मुलं असतात

आणि “मुलींना वाटतं, सगळी मुलं वाईट असतात” ...!!

खरंतर १०० मधुन, ७५ मुलं वाईट नसतात

पण या ७५ मुलांची वाट लावून,  
त्यांना तसं वागायला मुलीच भाग पाडतात....  
आणि “त्यांना वाटतं, मुलं वाईट असतात” ....!!

कधीतरी मुलांच्या भावना,

चांगल्या मनाने समजून घ्या,

कारण “हाताची पाची बोटं सारखी नसतात”,

आणि “सगळीच मुलं वाईट नसतात” ....!!

**नयन भोईर**

S.Y.B.Sc. (A)

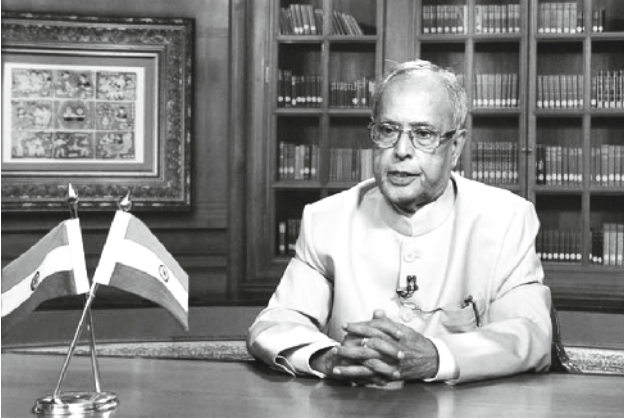




## भारताचे राष्ट्रपती भवन



**दे** शाचे तेरावे राष्ट्रपती म्हणून प्रणव मुखर्जी यांची निवड झाली आहे. आता लवकरच ते रायसीना हिलवरील राष्ट्रपती भवन या भव्य परीसरात राहण्यासाठी जातील. राष्ट्रपती भवनाविषयी ही थोडक्यात माहिती :-



**विशालभवन :-** राष्ट्रपती भवनात तब्बल ३४० खोल्या आहेत, अमेरिकेच्या राष्ट्राध्यक्षांचे निवासस्थान असलेल्या व्हाईट हाऊसमध्ये केवळ १३२ खोल्या आहेत. सुमारे दोन लाख वर्ग फुटाच्या जागेत भारताचे राष्ट्रपती भवन उभारले आहे. आजच्या रिल इस्टेट मार्केटच्या हिशेबाने विचार केला तर त्याची किंमत सुमारे १६ ० अब्ज रुपये आहे.

**बांधणी :-** चार ठेकेदारांनी राष्ट्रपती भवनाच्या बांधकामाची जबाबदारी स्विकारली होती. या चौघांमध्ये प्रसिद्ध पत्रकार खुशवंत सिंह

यांचे पिता सरदार सोबा सिंह यांचाही समावेश होता. ब्रिटीश व्हाईसरॉयचे भारतातील निवासस्थान म्हणून त्यांची उभारणी करण्यात आली होती. या प्रकल्पाचे मुख्य इंजीनियर होते सर तेजा सिंह.

**भव्य वास्तू :-** राष्ट्रपती भवनाच्या उभारणीचे काम तब्बल सतरा वर्षे म्हणजे १९१२ पासून ते १९२९ पर्यंत सुरू होते. त्यासाठी त्या काळात १.४ कोटी रुपयांचा खर्च आला. त्यांच्या बांधकामासाठी राजस्थानमधून कुशल मजुर आणण्यात आले होते. या भवनात राष्ट्रपती व त्यांच्या कुटुंबाबरोबरच दीड हजार कर्मचारी व त्यांचे कुटुंबीय राहतात. राष्ट्रपती भवनातील स्तंभावर कोरण्यात आलेल्या घंटा हिंदू, जैन आणि बौद्ध मंदिरातील घंटांच्या प्रतिकृती आहेत. कर्नाटकातील मुडाबिर्दिमधील जैन मंदिरातील स्तंभापासून प्रेरणा घेऊन या भवनातील स्तंभ निर्माण करण्यात आले. सांचीच्या स्तुपापासून प्रेरणा घेऊन या भवनाचा घुमट तयार करण्यात आला. प्राचीन भारतीय स्थापत्यशैली तसेच मुघल शैलीचे अनेक ठिकाणी अनुकरण दिसून येते.

**मुघल गार्डन :-** या विस्तृत बागेत गुलाबाच्या अडीचशे जाती पहायला मिळतात. ब्रिटीश राजवटीत व्हाईसरॉय चार्ल्स हार्डिंग यांची

पत्नी लेडी हार्डिंग यांच्या पुढाकाराने या बागेची निर्मिती करण्यात आली होती. देशाचे पहिले राष्ट्रपती डॉ.राजेंद्र प्रसाद यांनी जनतेला पाहण्यासाठी ही बाग खुली करून दिली.



**खेळाची मैदाने :-** राष्ट्रपती भवनाच्या आवारात टेनिसची चार ग्रास कोर्ट आहेत. याशिवाय क्रिकेट मैदान, पोलो ग्राऊंड आणि एक शानदार गोल्फ कोर्सही आहे. मात्र राष्ट्रपतींकडून या मैदानांचा वापर केला जात नाही.

**पहिले भारतीय निवासी :-** राष्ट्रपती भवनातील पहिले भारतीय निवासी होते चक्रवर्ती राजगोपालचारी. भारताचे पहिले गव्हर्नर जनरल म्हणून ते या भव्य वास्तूत राहिले. त्यानंतर २६ जानेवारी १९५० या दिवशी देशाचे पहिले राष्ट्रपती डॉ.राजेंद्र प्रसाद यांचे हे सरकारी निवासस्थान बनले आणि त्यावेळेपासून हे भवन राष्ट्रपतीचे अधिकृत निवासस्थान म्हणून वापरले जाते.

**लोकांचे आकर्षण :-** राष्ट्रपती भवन हे नेहमीच देशविदेशातील लोकांचे प्रमुख आकर्षण राहिले आहे. रोज सुमारे एक हजार लोक हे विशाल भवन पाहण्यासाठी येतात. त्यासाठी लोकांकडून कुठलाही शुल्क आकारला जात नाही. मात्र, एक विशिष्ट पास घ्यावा लागतो. शनिवार म्हणजे दर आठवड्याच्या अखेरीस राष्ट्रपती भवन पाहण्यासाठी येणाऱ्यांची संख्या दिड हजारांपेक्षाही अधिक असते.

**अनिकेत सुभाष तुपे**  
F.Y.B.Sc. (PCM) C



जीवन सारं जगताना,  
कधी रडायचं नसतं,  
उरी वेदना बहरत असताना,  
सदा हसायचं असतं

ओझं आपल्या दुःखाचं  
आपणच वहायचं असतं,  
कुणावर ते न लादता,  
आपण सक्षमतेने ते पेलायचं असतं

देता आलं कुणाला,  
तर सुखाचं गाठोडं दयावं,  
घेता आलं कुणाचं काही,  
तर त्याच दुःख घ्यावं असतं

## जीवन



काटा कुणाच्या मार्गाचा  
कधी बनायचं नसतं,  
होत असेल आपल्याकडून काही,  
तर फुल बनून, या जगी  
सर्वांना सुखवायचं असतं

जीवन कधी थांबत नाही,  
घडयाळाचा काटा हा पळतच असतो,  
म्हणून त्या काट्यावर घट्ट पाय रोवून  
आनंदाने जीवन जगायचं असतं

**श्वेता काशिनाथ संकपाळ**

S.Y.B.Sc. (B)

स्निग्ध प्रीती आणि मायेच्या माऱ्यानं,  
सदा तेवत रहायचं असतं,  
अंती श्वास घेताना, निरोपात मात्र  
सर्वांना प्रकाशीत करायचं असतं.



## HAPPY PROFESSION

**I**f a profession gives a sense of satisfaction or fulfillment of duty towards Nation/Society, Happiness will automatically follow.

Being Happy is far better than being successful but happy. So try to get success in profession but don't think this is the only factor for happiness.

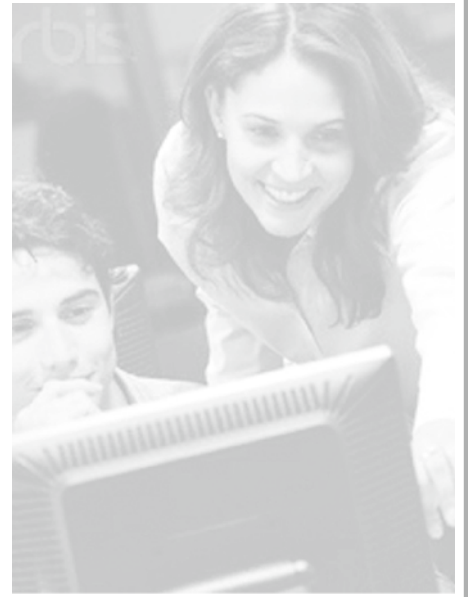
Don't overlook other factors of happiness.

WORK HARD WITH HONESTY AND CONFIDENCE

Success will be yours.....

*Priyanka Pandey*

S.Y.B.Sc. (PM) C



"How you spend your time is more important than how you spend your money. Money lost can be recovered, but time is gone forever".

*David Norris*

## THE VALUE OF TIME

To realize the value of one year

Ask a student who failed a grade.

To realize the value of one month

Ask a mother who gave birth to a premature baby.

To realize the value of one week

Ask the editor of a weekly newspaper

To realize the value of one Hour

Ask lovers who are waiting to meet

To realize the value of one minute

Ask a person who missed train

To realize the value of one second

Ask a person who barely avoided an accident

To realize the value of one Milli second

Ask a person who won a silver medal

in the Olympics.



*Rupali A. Kothari*

S.Y.B.Sc. (PM)



## भान

वावरतांना समाजात

भाव आपुले सोडू नको

आली कितीही संकटे तरी

डगमगून जाऊ नको ॥१॥

येतील दिवस उतरणीचे

तेव्हा जाण सोडू नको

दुरावली माणसे सारी तरी

स्वाभिमान सोडू नको ॥२॥

आयुष्य आपुले जगताना

वर्तमानाचा विसर नको

विरलेल्या स्वप्नांची

आठवण काढीत बसू नको ॥३॥

मागे वळून पाहत असता

पुढच्याचा सोस नको

हे ही दिवस जातील

नीती आपली सोडू नको ॥४॥

## प्रवासवर्णन : सफर गुहागरची.....

**द**रवर्षी आम्ही आमच्या कुलदैवतांचे दर्शन घ्यावयास कोकणात जातो. कोकणी असल्यामुळे आम्ही सहसा आंब्याच्या सीझनमध्येच जातो. नेहमी आम्ही देवतांचे दर्शन घेतो, थोडा आंब्यांचा आस्वाद घेतो आणि मग वर्षभरासाठीचे आशीर्वाद घेऊन परततो, परंतु यावेळी एक वेगळीच, रोमांचक आणि उत्साहपूर्ण अशी सहल झाली आणि ती म्हणजे गुहागरची सफर !

गुहागर हे श्री व्याडेश्वर देवस्थान आणि त्याच्या अस्तित्वासाठी प्रसिद्ध असलेले रत्नागिरी जिल्ह्यातील एक गाव. परंतु अशी अनेक वैशिष्ट्ये या गावात आहे जी किंबहुना आम्हाला माहितही नव्हती आणि जी निव्वळ योगायोगाने अनुभवता आली.

विशेष म्हणजे आमच्या कुटुंबाबरोबर हयावेळी माझ्या आत्याचेही कुटुंब होते, त्यामुळे जास्त मजेचा आस्वाद घेता आला. तर, नेहमीप्रमाणे देवदर्शन पहिल्याच दिवशी संध्याकाळ पर्यंत पार पडले. चिपळूणची देवी आणि नंतर गुहागरचे व्याडेश्वर देवस्थान असे करुन आम्ही रात्री गुहागरच्या श्री दुर्गादेवी देवस्थानाच्या भक्तनिवासामध्ये मुक्काम केला. आता हा दिवस आमचा दरवेळीप्रमाणेच गेला आणि आतेभावांच्या व भाच्यांसमवेत आनंदात गेला.

दुसऱ्या दिवशी गुहागरमध्ये काय करायचे हा मोठा प्रश्न होता कारण त्याच दिवसाच्या संध्याकाळची परतीची रेल्वे होतीच. मग सकाळपासून ते दुपारी ३.०० - ३.३० वाजेपर्यंत काय काय करायचे याचा आम्ही एक मोठा पल्लेन केला.

गुहागर-चिपळूण यामध्ये जवळपास ५०-६० कि.मी. अंतर आहे. जे एका तासात पार होऊ शकते, जेणे करुन संध्याकाळची ६.३० वाजता चिपळूणला परतीची ट्रेन पकडता येईल.

आता यावेळी बाबा व आत्या यांनी लहानपणी ऐकलेल्या पण कधी न जायचा योग आलेल्या ठिकाणांना जायचा बेत केला आणि ती ठिकाणे म्हणजे गुहागरचा किल्ला गोपाळगड आणि बारामाही सतत चालू असणारा संवत्सड्याचा धबधबा. एखाद्या गोष्टीची माहिती नसताना तेथे जाणं हा उत्साह वाढवणारा खेळ असतो आणि जणू असेच काही आमच्याबरोबर होत होते. कधीही न पाहिलेल्या गोपाळ गडावर जाणे हा एक



अविस्मरणीय क्षण ठरला.

नुकताच पावसाचा आरंभ झाला होता. सगळीकडे हिरवाई बहरलेली होती. सुंदर छोटे छोटे झरे खळखळ करत आपल्या अस्तित्वाची जाणीव करुन देत वाहत होते आणि अशा प्रसन्न वातावरणत आपले डोके वर काढून किल्ल्याच्या बुरुजावर





उमलायला लागलेली फुले होती असा नितांत सुंदर अनुभव घेणे म्हणजे भटक्यांसाठी एक पर्वणी असते. असाच हा किल्ला गुहागर जवळ होता, गोपाळगड, छोटेखानी पण सुंदर बांधणी असलेला किल्ला.

अचाट समुद्रकिनारा व न संपणाऱ्या समुद्राच्या दृष्ट्याने डोळ्याचे पारणे फिटले. साधारणतः किल्ला हा छोट्या-छोट्या पण रुंद अशा बुरुजांचा बनलेला आहे. शत्रूला समुद्रमार्गाने थोपवणे ही युक्ती केवळ छत्रपती शिवरायच करू जाणे आणि त्याचे उत्तम उदाहरण म्हणजे गोपाळगड. तसेच विक्रमगड, मुरुड-जंजिऱ्याचा किल्ला हे ही त्याचे दाखले देतात. अशाप्रकारे समुद्रसौंदर्य असलेला आणि फुलांच्या नवलाईने नटलेला हा गोपाळगड.

परंतु सध्या किल्ल्यावर लक्ष ठेवण्यास फक्त २-३ गडकरी आणि किल्ल्यावरील वनसृष्टीची निगा राखणारे काही माळी असतात. गडावर बाराही महिने पाणी उपलब्ध असते परंतु पाणी पिण्यायोग्य

नसते. गडाच्या आजूबाजूचा परिसर हा जंगलाचा असल्याने बाजूंस प्राणी वैविध्यताही आढळते. वानरे-माकडे ही भरपूर पहावयास मिळतात. गडाचे वैशिष्ट्य म्हणजे आज एकविसाव्या शतकातही तो मजबूत आढळून येतो, जवळपास ४५० वर्षांपूर्वी हा गड बांधला गेल्याची माहिती आहे. गडावरचा रम्य परिसर आणि निसर्गवैविध्यतेमुळे गोपाळगड हे गुहाकरच्या वैशिष्ट्यांपैकी एक आहे.



पण इतक्यातच आम्ही थांबलो नाही तर, संवत्सडाच्या धबधब्याने आमचा आनंद द्विगुणित केला. उंच-उंच पर्वतांमधून वाहणारा हा झरा कसे मोठ्या धबधब्यात आपले स्वरूप बदलतो हे पाहून नवलच वाटते. परंतु या जागेस संवत्सडा असे नाव का पडले याची कथा ऐकून आमचे काळीज धडधडले.



मुळ संवत्सडा हे नाव संवत-कडा असे आहे. म्हणजेच दोन सवती बायकांनी आपला जीव या कड्यावरून दिला. सवती म्हणजे एका पुरुषाच्या दोन बायका. असे म्हटले जाते, की लग्नाचे आणि नशिबाचे धागेदोरे हे वर देवच बांधत असतो, त्या नात्यामध्ये काही जण सुखी होतात परंतु काहींना सौभाग्यसुखाचा लाभ मिळत नाही आणि असेच काहीसे हया दोघींबरोबर घडले असावे, ज्यामुळे त्यांनी हया कड्यावरून आपला जीव दिला.

परंतु या दोघींच्या त्यागाचे प्रतीक असलेला हा धबधबा जवळपास बारामाही चालू राहतो.

थंडगार पाण्याने वाहणारा हा धबधबा आपल्या डोळ्याचे पारणे फेडतो. मुळतः या झऱ्याचा किंवा नदीचा जन्म वाशिष्ठी नदीतून होतो असे म्हणतात. त्याचा एक प्रपात ऐलतिरावर झोकून वाहतो आहे, तर त्यामुळे तयार झालेल्या पाण्याचा प्रवाह पुढे गावातील शेतांना आणि जंगलात वाहतो. जसजसे आम्ही धबधब्यांकडे जात होतो तसा त्याचा प्रपाताचा जलघोष ही तीव्र होत चालला होता.

जवळपास ५० ते ७० फूट उंचीवरून हा प्रपात खाली कोसळतो. हे दृष्य बघताना मन अगदी फुलून येते. आजुबाजुला सर्व हिरवळ पसरलेली होती.

संवत्सडाचा धबधबा म्हणजे एका

विराटाचे रंग-रूप-स्पर्श-श्राव्य असे अनेक अंगी दर्शन आहे. आता आम्ही प्रवाहाच्या खाली उभे होतो. कोसळत्या पाण्याचे तुषार सर्वांगावर आपटत



होते. एकाएकी पाण्याच्या स्पर्शाने अंगातील सर्व कष्टांचा नाश होऊन प्रसन्न व शांत वाटते. जर खालून वर वाहिले तर दूग्धरंगी पाण्याचा प्रवाह पडताना दिसतो.

अशाप्रकारे निसर्गाच्या नवलाईने नटलेल्या गुहागरच्या वैशिष्ट्यांचा अनुभव घेऊन आणि एकंदरीतच घड्याळाकडे पाहून आम्ही परतायचे ठरवले. घरी गेल्यानंतरही आम्ही गुहागरच्या आठवणींचे चित्र आठवून आनंदी होतो.

जर योग असतील तर सर्व काही होऊ शकते असे म्हणतात, म्हणूनच हा आमचा योग आला म्हणून थोडेफार निसर्गाच्या हाकेला 'ओ...' देता आले.

अशाप्रकारे आमची गुहागरची सफर आनंदाची व अविस्मरणीय ठरली.

**सौरभ कि. पटवर्धन**

F.Y.B.Sc. (Biotech)





## आई- वडिलांना विसरु नका

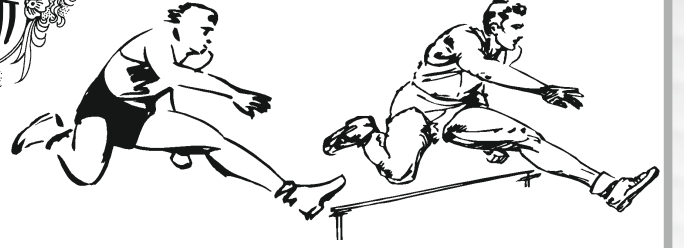


दुसरं सारे काही विसरा परंतु आई-वडिलांना विसरु नका  
 विसरा सर्वांना परंतु आई-वडिलांना विसरु नका  
 आपल्यावर त्यांचे अगणित उपकार आहेत  
 त्यांनी असहय अशा वेदना सहन केल्या तेव्हाच आपण  
 जग व पृथ्वी पाहू शकलो  
 त्या पूज्य जनांचे हृदय पाषाण बनून ठेचू नका  
 आपल्या मुखातील घास तुम्हास देऊन त्यांनीच मोठे केले  
 त्यांनी अमृत पाजले  
 त्यांना विष पाजू नका, ज्यांनी तुमचे लाड केले  
 कोडकौतुक केले त्या पुरविणाऱ्यांच्या गरजा पूर्ण करण्यास  
 विसरु नका  
 लाखो कमावून सुद्धा ज्यांनी आई-वडिलांना संतुष्ट केले नाही,  
 नाही ते लाख नव्हेत तर राखच आहेत  
 असे मानण्यास विसरु नका  
 त्यांच्यासून मायेची इच्छा धरता तर मुलाप्रमाणे त्यांची  
 सेवा करा, जसे कराल तसे भराल  
 ही भावना कधीही विसरू नका  
 जीने भिजलेल्या कपड्यावर स्वतः झोपुन तुम्हांस सुक्या  
 कपड्यांवर निजवले तिच्या स्नेहार्द डोळ्यात अश्रू  
 येतील असे वागू नका  
 ज्यांनी तुमच्या मार्गावर प्रेमाची फुलेच पसरली त्यांच्या  
 मार्गात तुम्ही काटे बनू नका  
 पैसे खर्चून सर्व काही मिळेल  
 परंतु आई-वडील व त्यांचे निर्व्याज प्रेम मिळणार नाही  
 त्यांच्या पूज्य चरणांची आठवण ठेवा  
 त्यांना कधीच विसरु नका.

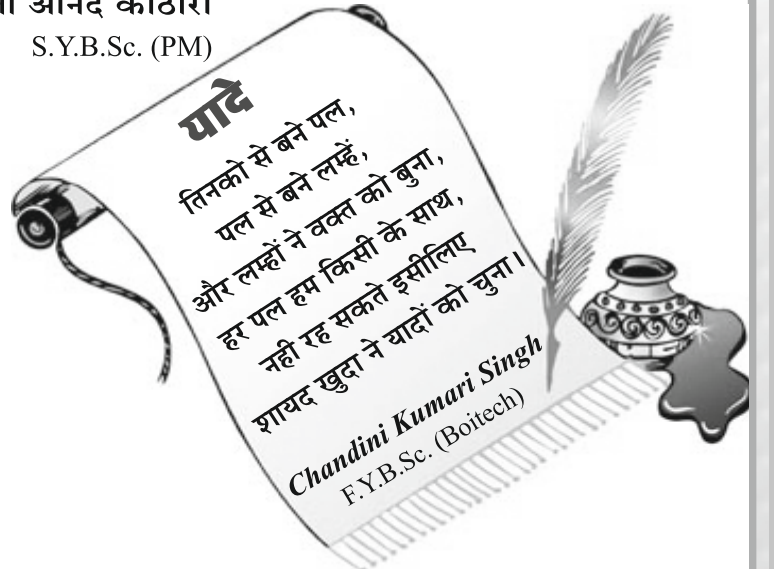
रुपाली आनंद कोठारी

S.Y.B.Sc. (PM)

## जिंकणारा विरुद्ध हरणारा



जिंकणाऱ्यापाशी उत्तर नेहमी तयार असते  
 हरणाऱ्यापाशी समस्या नेहमी तयार असते  
 जिंकणाऱ्यापाशी निश्चित कार्यक्रम असतो  
 हरणाऱ्यापाशी लंगडया सबबी असतात  
 जिंकणारा म्हणतो, आणा, मी करतो  
 हरणारा म्हणतो, ते माझं काम नाही  
 जिंकणाऱ्यापाशी प्रत्येक समस्येला उत्तर असते  
 हरणाऱ्यापाशी उत्तरागणीक समस्या हजर असतात  
 जिंकणाऱ्याला वाळूच्या बेटात हिरवळ दिसते  
 हरणाऱ्याला हिरवळीच्या भोवती वाळू दिसते  
 जिंकणाऱ्याला कठीण असलं तरी शक्य दिसतं  
 हरणाऱ्याला सोप असलं तरी अशक्य दिसतं  
 कारण जिंकणारा सहज हरत नाही  
 आणि हरणारा क्वचितच जिंकतो  
 म्हणून एकेक क्षेत्र जिंकत चला.....



यादे

तिनको से बने पल,  
 पल से बने लम्हे,  
 और लम्हों ने वक्त को बुना,  
 हर पल हम किसी के साथ,  
 नहीं रह सकते इसीलिए  
 शायद खुदा ने यादों को चुना।

Chandini Kumari Singh  
 F.Y.B.Sc. (Boitech)



## STUDENT LIFE A BOON OR BANE



**I**t is always said by the elders that students days is the best phase of life, but as a student we don't feel like that.

On the positive part it's always a pleasure in this age to be with friends have fun etc. which is possible due to our college life but the negative side we are always loaded with class tests, internals assignments, projects, practicals & the most annoying attendance in lectures. These things occupy our daily schedule.

The best part of being a student is we have no worries & tensions except for that of exams. Life is enjoyment as whatever we demand is provided by parents. The only one

who we need to answer are parents. Pondering over our future, life appears a cake walk. No matter whatever is the problem we have elders, to take care. We never worry what we will face in our future.

Whatever sort of problems they might be, our syllabus & schedule is much more easier comparatively, so yes, being a student is a boon we can try new things, explore, throw tantrums, deny things, demand things, express, enjoy... and a lot more !

Be happy for being a student.

**Rubina Shaikh**  
S.Y.B.Sc. (C)

**Mobile Funda**



Life before marriage is Airtel :  
 "You can express yourself".  
 After marriage is Reliance :  
 "Always get in touch".  
 After Honeymoon is Hutch :  
 "Wherever you go your wife network follows".  
 After One year life is idea :  
 "Your wife can change your life".  
 After 10 Years life is BSNL :  
 "Subscriber is not reachable".



A man before marriage - Superman  
 After marriage - Gentleman  
 5 Years later - Watchman  
 10 Years later - Apne hi jaal main fassa hua Spiderman.



**Prof. Prakash Mali**  
Chemistry Dept.





# LIFE IS LOVE ENJOY IT !

LIFE IS **A**DVENTURE, DARE IT  
 LIFE IS **B**EAUTY, WORSHIP IT  
 LIFE IS **C**HALLENGE, MEET IT  
 LIFE IS **D**REAM, REALISE IT  
 LIFE IS **E**NDURANCE, COPE WITH IT  
 LIFE IS **F**RAGRANCE, SMELL IT  
 LIFE IS **G**AME, PLAY IT  
 LIFE IS **H**EAVEN, ENJOY IT  
 LIFE IS **I**NIITIATIVE, TAKE IT  
 LIFE IS **J**OURNEY, COMPLETE IT  
 LIFE IS **K**ITE, FLY IT  
 LIFE IS **L**OVE, EXPERIENCE IT  
 LIFE IS **M**YSTERY, UNFOLD IT  
 LIFE IS **N**AME, FIND IT  
 LIFE IS **O**PPORTUNITY, GRAB IT  
 LIFE IS **P**PROMISE, FULFIL IT  
 LIFE IS **Q**UESTION, ANSWER IT  
 LIFE IS **R**EAULTY, FACE IT  
 LIFE IS **S**ONG, SING IT  
 LIFE IS **T**IME, UTILIZE IT  
 LIFE IS **U**RG, SATISFY IT  
 LIFE IS **V**OICE, LISTEN IT  
 LIFE IS **W**EALTH, ACQUIRE IT  
 LIFE IS **X** SOLVE IT  
 LIFE IS **Y**EARNING, GO AFTER IT  
 LIFE IS **Z**ENITH, ATTAIN IT.

*Prof. Prakash Mali*  
 Chemistry Dept.



*The most important 6 words :*

*'I admit I made a mistake'*

*The most important 5 words :*

*'I am proud of you'*

*The most important 4 words :*

*'What is your opinion'*

*The most important 3 words :*

*'If you please'*

*The most important 2 words :*

*'Thank you'*

*The most important 1 word :*

*'We'*

*The most unimportant words :*

*'I'.*

*Yogita Tanaji Kharat*  
 S.Y.B.Sc. (PM)

# KNOW YOUR WORTH...!



'My friends, you have all learned a very valuable lesson.

No matter what I did to the money, you still wanted it because it did not decrease its value.

It was still worth Rupee 500/-

Many times in our lives, we are dropped, crumpled, and ground into the dirt by the decisions we make and the circumstances that comes our way. We feel we are worth less.

But no matter what has happened or what will happen, you never lose your worth.

You are special. don't ever forget it ! never let yesterday's disappointments overshadow tomorrow's dreams.

*Ruchika S. Jadhav*  
S.Y.B.Sc. (PC)

**A** well-known speaker started off his seminar by holding up a Rupee 500 note. In the room of 200, he asked, "Who would like to have this Rupee 500 note?"

Hands started going up. He said, 'I am going to give this note to one of you but first let me do this.' He proceeded to crumple up the note.

He then asked, 'Who still wants it?'

Still the hands were up in the air.

'Well, he replied, 'What if I do this?' And he dropped it on the ground and started to grind into the floor with his shoe. He picked it up, now all crumpled and dirty. Now who still wants it ?

Still the hands were up in the air.



## उम्मीद

हम वो नहीं, जो संकट समय

आने पर डगमगा जाएंगे ।

हम वो नहीं, जो खेलने से

पहले हार मान लेंगे ।

हम तो वो हैं;

जो गम के बादलों से भी

खुशियों की बरसात दे जाएंगे ।

*दिपश्री डोके*  
F.Y.J.C. (A)



## How does lightning occur?

**L**ightning is the result of a large charge separation within a cloud. Clouds are composed of millions of ice particles and water droplets. These particles collide with other condensing moisture as it rises, and when they do, electrons are knocked loose. These electrons build up at the bottom of a cloud and make it negatively charged. The rising moisture molecules, now missing electrons, become positively charged and gather at the top of the cloud. This creates a charge separation, which has an electric field that is negative at the bottom and positive at the top. As the collisions continue, the electric field builds so strong that it gives the planet's surface a positive charge. When these charges become powerful enough, the cloud's electricity is discharged toward the Earth's surface, which results in lightning.

### The Cloud to Ground Striking Process

A stroke of lightning only takes about  $\frac{1}{2}$  of a second to occur. There are two key ideas associated with the process of lightning strokes. They are termed as stepped leaders and return strokes. There is also a dart leader. With these three, the path of a lightning bolt can be covered from the place where it leaves the cloud to its connection with Earth.

A stepped leader is a very faint discharge of lightning inside a cloud. These discharges move toward the ground in series of steps; each step down is about 50 yards long. When the leader steps down to Earth and connects to the ground or a tree (for example) the circuit is complete and the lightning strikes.

A return stroke is a lightning stroke that originates from the ground. The stroke travels back to the cloud.

A dart leader happens when electrons are discharged, taking the initial path of the

lightning stroke to the ground. This means that lightning can strike the same place more than once. Lightning has favorite sites to strike and is capable of following the same path twice, contrary to what some people believe.

### Thunder

Thunder is a result of lightning. Although many people say "thunder and lightning" it is actually "lightning and thunder". Thunder occurs because a stroke or flash of lightning heats up the air around it so fast that the air expands very rapidly, or explosively. It is said that the air around a lightning bolt heats to five times hotter than the air on the sun's surface!

Since heat makes things expand, like a marshmallow in a microwave, the air expands when the lightning heats it. Because the rate of expansion is so fast, the air actually vibrates, causing waves. These waves are the sound waves that we hear as sound, or thunder.

Thunder travels about one mile for every second you count after you see a stroke of lightning. This allows you to figure out how close the lightning struck to where you are.

For example: let's say that you see a flash of lightning and then begin to count how many seconds before you hear the thunder. If you count 15 seconds this means that the lightning struck about 3 miles from you (divide 15 seconds by 5 seconds to figure the stroke was 3 miles away).

**Prof. M. Ashwin**  
Dept. of Physics



## कंप्यूटर के जाल में

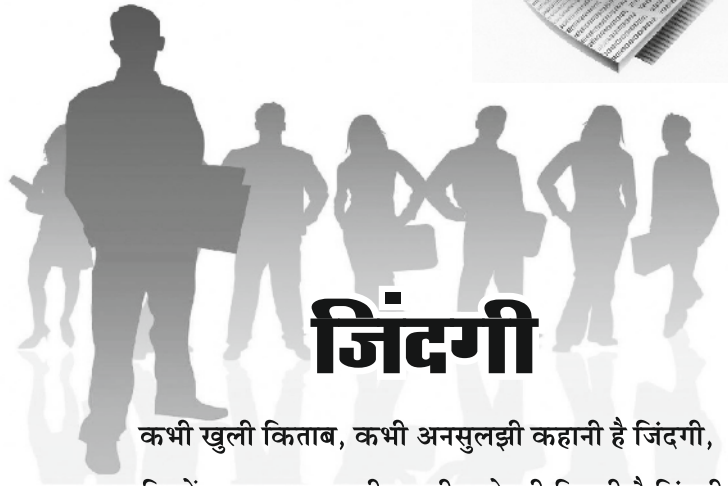
कहते कहते देखो,  
कलियुग भी आ गया ।  
कलियुग में सबकुछ हाईटेक हो गया,  
और बेचारा हमारा युवा  
कंप्यूटर के जाल में फस गया ।

अब ना रही वह चिट्ठी,  
और ना रहा वह कबूतर,  
क्यों कि उनकी जगह आ गया कंप्यूटर ।  
अब प्रेमी प्रेमिका को चिट्ठी नहीं भेजता है,  
क्योंकि बस एक-ई-मेल से ही काम चल जाता है ।

आज कल सभी के दिलो पे छाह चूका है इंटरनेट,  
कईयोंकी लाइफ कर चूका है ये सेट ।  
अब पढ़ाई करने के लिए पणू library नहीं जाता है,  
क्योंकि इंटरनेट पर ही सबकुछ मिल जाता है ।  
और बिना पढ़ाई किए ही  
अपना पणू पास हो जाता है ।

अब कंप्यूटर के जाल में,  
फँस चुकी है दुनिया सारी !

आ चुकी है internet की बारी  
अब गुड्डी भी हर सवाल का जवाब दे देती है ;  
क्योंकि एक गोली भी दिमाग की बत्ती जला देती है ।  
इंसान और नेट के दुनिया की बन गई है तरकारी  
जिसके सामने हमारी सभ्यता है हारी ।  
ये खास खबर इसी तरह रहेगी जारी,  
उससे पहले एक ब्रेक की बारी ।



## जिंदगी

कभी खुली किताब, कभी अनसुलझी कहानी है जिंदगी,  
खुशियों का एहसास कभी, कभी गमो की विरानी है जिंदगी ।  
कभी महफिल, कभी तनहाई का आलम है जिंदगी ।  
शिकस्त कभी, कभी फतह होती है जंग में,  
जीत लो अगर दिल-ए-दुश्मन, तो दोस्तो की खानी है जिंदगी ।  
मत डरो की गुलिस्ता उजड़ जाएगा पतझड़ में,  
आएगा वो सावन भी, जब खिला गुलशन हो जिंदगी ।  
क्या हुआ जो टूटा हो कोई अपना सा सपना,  
ख्वाबों की आबादी नहीं, सपनो की हकीकत है जिंदगी ।  
मत रुकना ऐ दोस्त, राह की रुकावटों के आगे,  
पिंजरा तोड़ कर उड़ जाना, पंछी का यही अरमान है जिंदगी ।

सुमन बी.एन यादव  
S.Y.B.Sc. (PC) A





# हंसती शायर खोपड़ी



यशोमती मैया से बोले नंदलाला,  
यशोमती मैया से बोले नंदलाला,  
टाटा स्काय लगा डाला तो लाईफ झिंगलाला !



रोमियो ने जुलिएट से कहा एक सच,  
रोमियो ने जुलिएट से कहा एक सच,  
असली मसाले सच सच, एमडीएच, एमडीएच!!



सिर्फ मोहब्बत ही नहीं है दुनिया में,  
जो दर्द के लिये जिम्मेदार है ।  
कमबक्खत रविवार के बाद,  
सोमवार भी बहुत तकलीफ देता है.....।।



किसी को न थी मेरे प्यार की खबर,  
किसी को न थी मेरे प्यार की खबर,  
डायग्राम गलत हो गया, रबर दे रबर।।



न जीने की आरजू न मरने का खौफ,  
न जीने की आरजू न मरने का खौफ,  
द नंबर यू आर ट्रायिंग करन्टली स्विचड ऑफ।।



यूं खामोश रहकर तड़पोगी कब तक,  
यूं खामोश रहकर तड़पोगी कब तक,  
केमरामैन प्रफुल्ल के साथ दिपक चौरसिया आज तक।।



मैं हूं यहां, तू है वहां,  
मैं हूं यहां, तू है वहां,  
लाईफ बॉय है जहां तंदुरुस्ती है वहां !

प्रा.प्रकाश माळी  
रसायनशास्त्र विभाग



# घन ओथंबून आले...

घन आले ओथंबून,  
परी मन हे उदास,  
चांदण्याच्या राती झाल्या,  
कुठे नभात गुडूप.

घन आले ओथंबून,  
नयनांचे साकडे,  
गाली पडती वर्षाव,  
मोती माळेतुनी ढळे.

घन आले ओथंबून,  
मनी मोराचा पिसारा,  
कधी बहुरुनी फुले,  
कधी नुसताच सहारा.

घन आले ओथंबून,  
दिस रातीच्या जाहल्या,  
कुणी आसरा द्यावे,  
त्या चिमुक पाखरा.

घन आले ओथंबून,  
टपटप पाऊसधारा,  
सर्वांगातून धावे,  
संगीतमय वारा.

घन आले ओथंबून,  
चिंब चिंब झाले तन,  
परी कोरडे कोरडे,  
पावसाळी हे क्षण....

परी कोरडे कोरडे,  
पावसाळी हे क्षण.....

प्रा.आशिष कोळी  
भौतिकशास्त्र विभाग



**कळत  
नाही  
खरंच...**



**चिंब पावसाळी**

प्रामाणिकपणे जगायचं की,  
दुष्टपणाने वागायचं,  
कळत नाही खरंच ।  
नेमकं कसं जगायचंय



एखादा धडपडला  
तर त्याला सावरायचं  
की मान वळवून पुढे  
निघून जायचं  
कळत नाही खरंच....

चुकला तर कुणी  
त्याला समजून घ्यायचं  
की 'कारे' चुकलास?  
म्हणून ठणकावून विचारायचं  
कळत नाही खरंच...

दुःखात, संकटात रडत कुढत  
राहायचं की यशाच्या शिखरावर  
स्वतःला पाहायचं  
कळत नाही खरंच....

मिळालेल्या आयुष्याचं  
सोनं करत राहायचं  
की सोन्यासारख्या जीवनात  
'उणं' शोधत राहायचं  
कळत नाही खरंच....

दर्शना एस. महाजन  
S.Y.B.Sc. (A)

मन चिंब पावसाळी,  
ओल्या त्या वातावरणात,

मन चिंब पावसाळी  
बरसणाऱ्या मेघात.

मन चिंब पावसाळी  
कोसळणाऱ्या सरीत.

मन चिंब पावसाळी  
गरजणाऱ्या वीजेत.

मन चिंब पावसाळी,  
भिजलेल्या वाऱ्यात.

मन चिंब पावसाळी,  
मयुराच्या नादमय नृत्यात.

मन चिंब पावसाळी,  
बहरणाऱ्या फुलांत.

मन चिंब पावसाळी,  
दरवळणाऱ्या गंधात.

मन चिंब पावसाळी  
त्या मोहरणाऱ्या सृष्टीत.

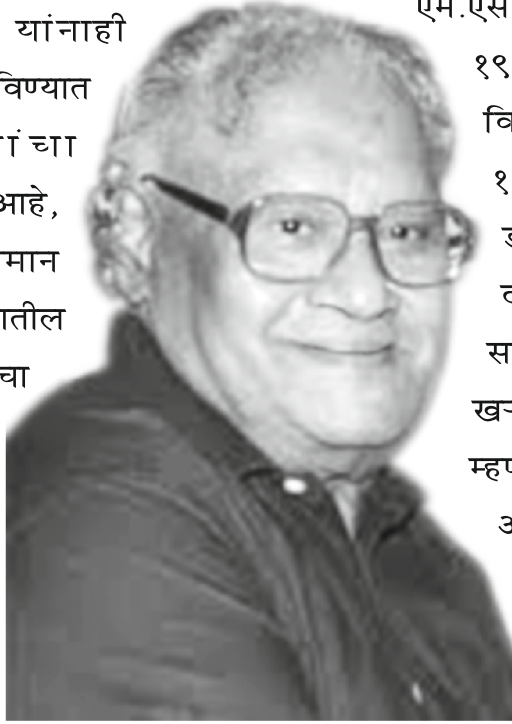
मन चिंब पावसाळी  
चिंब पावसात...!!

अक्षदा अनिल मोरे  
F.Y.B.Sc. (CBZ) A



## भारतरत्न प्रो.सी.एन.आर.राव प्रभावी, लोकप्रिय शिक्षक - प्रा.प्रकाश माळी

**स**चिन तेंडुलकर बरोबरच जेष्ठ रसायनशास्त्रज्ञ आणि पंतप्रधानांच्या वैज्ञानिक सल्लागार परिषदेचे अध्यक्ष प्रा.सी.एन.आर.राव यांनाही भारतरत्न सन्मानाने गौरविण्यात आले आणि ज्यांच्या रसायनशास्त्राशी संबंध आहे, त्यांना अतिशय अभिमान वाटला. त्यांच्यारूपाने देशातील वैज्ञानिक संशोधक परंपरेचा सन्मान झाला आहे. स्पष्टवक्ते म्हणून प्रसिध्द असलेले प्रा.राव 'घनरूप अवस्था आणि पदार्थ रसायनशास्त्रा' या विषयावर जगभरात



अधिकारी वैज्ञानिक मानले जातात. त्यांचे आतापर्यंत १४०० वर शोधनिबंध आणि ४५ पुस्तके प्रकाशित झालेली आहेत. प्रा.सी.व्ही.रमण आणि डॉ.ए.पी.जे.अब्दुल कलाम यांच्यानंतर 'भारतरत्न' ने गौरव होणारे प्रा.राव हे तिसरे वैज्ञानिक आहेत.

प्रा.सी.एन.आर.राव यांचे संपूर्ण नाव चिंतामणी नागेश रामचंद्र राव असे आहे. छत्रपती शिवाजी महाराजांच्या साम्राज्यात देशमुख असलेले राव घराणे कोल्हापूरात राहत होते. मराठी साम्राज्यात विस्ताराबरोबर ते कर्नाटकात पोहचले. याच घराण्यात ३० जून १९३४ रोजी नागम्मा नागेश राव यांच्या पोटी सी.एन.आर.राव यांचा जन्म झाला १९५१

साली म्हैसूर विश्वविद्यालयातून राव यांनी बी.एस.पदवी संपादन केली. त्यानंतर त्यांनी थेट काशीचे हिंदू विश्वविद्यालय गाठले. तेथून एम.एस.ही पदव्युत्तर पदवी मिळवली. पुढे १९५१ साली अमेरिकेतील परड्यू विद्यापीठातून पी.एच.डी.मिळवली. १९६१ साली म्हैसूर विद्यापीठाची डी.एस्सी.पदवी प्राप्त केली. एक नव्हे, दोन नव्हे तर तब्बल ४७ विद्यापीठांनी सन्माननीय डॉक्टरेट दिलेले प्रा.राव खऱ्या अर्थाने डॉक्टर ऑफ डॉक्टर म्हणावे लागतील. या विद्यापीठात ऑक्सफर्ड विद्यापीठ, परड्यू विद्यापीठासह आय.आय.टी.चा ही समावेश आहे.

आय.आय.टी.कानपूर चे संस्थापक निर्देशक डॉ.केळकर एक द्रष्टे होते आणि ही संस्था उभी करण्याकरिता प्रत्येक विभागाचे प्राध्यापक म्हणून त्यांनी होतकरु पण विद्वान असलेल्या इंजिनियर आणि वैज्ञानिकांना नेमले. या मोहिमेत १९६३ मध्ये त्यांनी प्रा.राव यांना कानपूरला आणले. त्यानंतरच्या १३ वर्षात प्रा.राव यांनी रसायनशास्त्राचे शिक्षण आणि संशोधन यांची नवीन क्षितीजे निर्माण केली. त्यांच्या या प्रयत्नात त्यांना रसायनशास्त्र विभागातील प्रा.नरसिंहन आणि प्रा.जॉर्ज यांचे, मोलाचे सहकार्य मिळाले. या तिघांच्या आणि आय.आय.टी.कानपूरच्या भौतिकशास्त्र आणि गणितशास्त्र विभागातील



प्राध्यापकांमुळे या संस्थेत विज्ञानाचा दबदबा वाढला आणि डॉ. केळकरांचे 'विज्ञाननिष्ठ अभियांत्रिकी प्रशिक्षण' हे स्वप्न साकार झाले.

आय.आय.टी. कानपूरच्या विज्ञान विभागातील प्राध्यापकांनी आपल्या प्रतिभेने संस्थेत विज्ञानाचा दर्जा उंचावला आणि देशभरात विज्ञान शिक्षणाची आणि संशोधनाची नवी संस्कृती स्थापन केली.

या प्रयत्नात प्रा.राव अग्रेसर होते. इंजिनियरींगच्या प्रथम वर्षाला ते रसायनशास्त्र हा विषय आवडीने आणि कुशलतेने शिकवित असत. एक प्रभावी, लोकप्रिय शिक्षक म्हणून ते ओळखले जाऊ लागले. या अनुभवातून १९७३ साली त्यांनी लिहिलेल्या University General Chemistry या पाठ्यपुस्तकाचा जन्म झाला. हे पुस्तक अतिशय गाजले आणि त्या काळात विद्यार्थ्यांच्या अनेक पिढ्यांनी त्यांच्या पुस्तकाच्या आधाराने रसायनशास्त्राचा अभ्यास केला. संशोधन क्षेत्रातही प्रा.राव यांनी कानपूरला नवीन विषयांत प्रयोग सुरु केले. तोपर्यंत बहुतेक रसायनशास्त्रज्ञ एका ठराविक चाकोरीच्या बाहेर जात नसत. पण प्रा.राव यांनी Solid State Chemistry, Structural Chemistry, Material Chemistry वगैरे नवीन शाखांमध्ये संशोधन सुरु करून एक वेगळी दिशा अनुसरली. त्यांच्या हाताखाली संशोधन केलेल्या विद्यार्थ्यांनी नाव कमावले आणि आज ते विद्वान म्हणून मानले जातात. प्रा.राव हे काळ, काम, वेग यांचे व्यवस्थापन अत्यंत कुशलतेने करत. एकाच वेळी

निरनिराळ्या जबाबदाऱ्या ते लिलया पेलत. सर्वांशी मैत्री राखून लोकसंग्रह वाढविण्याचे त्यांचे कसब लाजवाब होते. त्यांचे वाक्चातुर्य आणि लेखन कला तितकीच अनुकरणीय होती. विज्ञान शिक्षण, संशोधन यांच्या इतकेच त्यांनी विज्ञान-प्रसाराकडे लक्ष दिले. कानपूरला असतांना Science Resource Letter नावाचे एक त्रैमासिक त्यांनी संपादित केले. हे मासिक विद्यार्थी आणि शिक्षक वर्गात अतिशय लोकप्रिय झाले होते. कानपूरच्या वास्तव्यात प्रा.राव यांनी महत्वाच्या प्रशासकीय जबाबदाऱ्या (विभागप्रमुख, डीन) पण यशस्वीरित्या पार पाडल्या.

जगभरातील अनेक वैज्ञानिक संस्था आणि अभ्यास केंद्रांनी फेलोशिप व सदस्यत्व देऊन त्यांच्या कार्याचा गौरव केला आहे. अनेक राष्ट्रीय आणि आंतरराष्ट्रीय पुरस्कारांनी त्यांना गौरवण्यात आले आहे. प्रा.राव सध्या राष्ट्रीय संशोधक प्राध्यापक असून बेंगळूरु मधील जवाहरलाल नेहरू प्रगत वैज्ञानिक संशोधन केंद्राचे मानद अध्यक्ष आहेत. २००५ मध्ये त्यांची पंतप्रधानांच्या वैज्ञानिक सल्लागार परिषदेच्या अध्यक्षपदी नियुक्ती करण्यात आली. धातूरसायनशास्त्राच्या आंतरराष्ट्रीय अभ्यास केंद्राचे ते संचालक आहेत. ऑक्सफोर्ड सेमी कंडक्टर हे प्रा.राव यांच्या संशोधनाचे फलित आहे. ब्रिटनमधील रॉयल सोसायटीने २००० मध्ये हयुजेस पदक देऊन त्यांचा सन्मान केला असून भारत विज्ञान पुरस्काराचे ते पहिले मानकरी आहेत. पद्मश्री आणि पद्मविभूषण पुरस्कारानंतर आज त्यांना भारतरत्न हा सर्वोच्च नागरी सन्मान प्राप्त झालेला आहे. रसायनशास्त्र विषयाचा शिक्षक म्हणून प्रा.राव यांना माझा मानाचा मुजरा !





## येणारे क्षण

येणारा क्षण जाणार आहे.  
तुम्ही सुखात घालवा की दुःखात,  
दिवस मात्र सरणार आहे.  
बघा जगता येत असेल तर आनंदाने जगा,  
नाही तर मग दुःखाने झुस्त मरा.  
सर्व काही तुमच्या मनावर आहे,  
कारण येणारा क्षण जाणारा आहे.

बालपण गेले भविष्य घडविण्यात, तरुणपण गेले तिच्या विचारात.

अर्धे आयुष्य असे सरले, भुतकाळाच्या आठवणीने घेरले.

आता मात्र जागा झालो आहे.

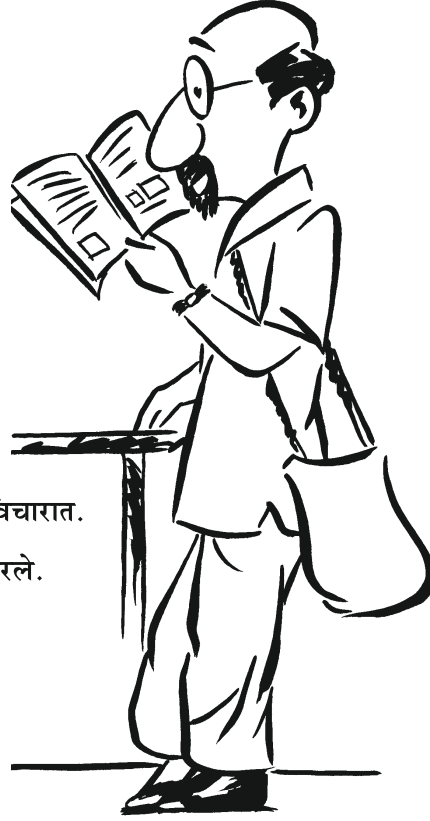
आनंदाने जगायला जीवना समोर

आलो आहे.

म्हणून अनुभवाचे बोल मी आज

सांगणार आहे.

कारण येणारा क्षण एकदा जाणारा आहे.



रुपाली कोठारी

S.Y.B.Sc. (PM)

## धैर्य



नशिबाने साथ सोडली म्हणून

मरायचे नसते ।

स्वतःच्याच हिमतीवर

जगायचे असते ॥

मागचे सारे आठवून

रडायचे नसते ।

भविष्याचे विचार करून

जगायचे असते ॥

क्षणिक संकटाना

घाबरायचे नसते ।

एकदा ठेच लागली म्हणून

थांबायचे नसते ।

धैर्याने त्याच वाटेवरून

चालायचे असते ॥



## माझी माय

धरती माय धरती माय,  
जशी दुधावरची गोड साय ।

तुझी आहे मोठी काया,  
जशी तडपत्या उन्हात सावलीची छाया ।

तु आहे साऱ्या विश्वाची माऊली,  
नेहमी असते आमच्यावर तुझ्या प्रेमाची सावली ।

अंगावर ऊन, वारा झेलत,  
नेहमी राहते तु आनंदात ।

काळा, तांबडा, करडा तुझा रंग,  
त्यातुन देते तु फळा-फुलांचा सुगंध ॥

काट्यांचे आवरण अंगावर घेवोनी,  
धनधान्याची शेती देते भरभरोनी ।

दिपाश्री डोके  
F.Y.J.C. (A)

सर्वांचा उदय तुझ्यातून झाला,  
अस्ताला जाताना तो परत तुझ्यातच सामावला ॥

# हास्यतुषार

एक तरुणी रस्त्यावरून एकटीच चालली होती. एक मुलगा मागून बाइकवर आला.

मुलगा : एक्सक्युज मी,

तुला लिफ्ट देऊ का ?

तरुणी : चल हट , गेल्या तीन दिवसापासून कुणी ना कुणी लिफ्ट देतंय. पण अजून घरी काही पोहोचले नाही मी.

मुलगा : आय लव्ह यू....

मुलगी : पण माझं दुसऱ्या मुलावर प्रेम आहे.

मुलगा : (धावता धावता) थांब तुझ्या आईला जाऊन सांगतो.

मुलगी : थांब रे वेड्या.....

आय लव्ह यूटू !!

(दोन मैत्रिणीच्या लग्नाविषयी गप्पा सुरु होत्या)

पहिली दुसरीला : माझा निर्णय झाला आहे लग्नाचा मी २५ वर्षांची झाल्यानंतरच लग्न करणार आहे.

दुसरी पहिलाला : मी पण निर्णय केला आहे....

तोपर्यंत लग्न करणार नाही तोपर्यंत २५ वर्षांची होणार नाही.

(रमेश आपल्या घरमालकाला)

रमेश : तुमच्या पहिल्या मजल्यावरची ती बाई सारखी तिच्या नवऱ्यासोबत भांडत असते. त्यामुळे सर्व शेजाऱ्यांना त्रास होतो. तुम्ही तिला रागावायला हवं.

मालक : तुम्ही तिचे शेजारी वाटतं.

रमेश (नाराज होऊन) : नाही, मी तिचा नवरा आहे.

बसमध्ये एकच सीट रिकामी होती. दोन मुलीत सीटवर बसण्यासाठी भांडत होत्या.

कंडक्टर : ओ कशाला भांडताय ?

तुमच्या पैकी जी वयाने मोठी असेल

तिने बसावं.....

(शेवटी, दोघीजणी स्टॉप येईपर्यंत पूर्ण वेळ उभ्या राहिल्या.)

तीन मैत्रिणी असतात. दोघींची लग्ने झालेली असतात. त्यामुळे त्या दोघीही आपल्या अविवाहित मैत्रिणीची चेष्टा करतात.

दोघींनी मुद्दामहून तिला एकदम विचारलं, काय ग ?

निदान कुणाबरोबर रोमान्स तरी केलायसं की नाही ? एखादं प्रेमपत्र तरी.

रोमान्स आणि प्रेमपत्र ना, हो.

पण त्याचा तपशील तुमच्या नवऱ्यांनाच विचारा.

(इंजिनिअरिंगचा मुलगा एका मुलीला प्रपोज करायला जातो.)

मुलगा : आय लव्ह यू, मी तुझ्यासाठी काहीही करू शकतो, तु फक्त बोल.....

मुलगी : बरं मग तू मला सगळे विषय केटीशिवाय सोडवून दाखव.

मुलगा : येतो ताई..... काळजी घे !

बंड्या : हा अन्याय आहे....

खंड्या : काय अन्याय आहे?

बंड्या : जर सगळे विषय

एकच शिक्षक शिकवत

नाहीत, तर मग सगळ्या

विषयांचा अभ्यास एका

विद्यार्थ्याने का करायचा?

प्रा.प्रकाश माळी  
रसायनशास्त्र विभाग



# SELF CONFIDENCE

**H**i friends ! You know that this is a new generation of dashing personality. The one who fears to do anything can't do anything in his/her life. If you want to be a confident person, here's an interesting tip for you. It makes you change from a shy to a Dashing person.

The formula can be expressed in just this words "So What?",

This formula of confidence is so powerful that it helps you to combat against shyness and fear. Shyness and fear are your big enemies.

For example, if someone insults you in front of many people or something goes wrong while performing dance, delivering speeches, etc., the audience laugh at you and you feel a lot humiliated. Then one thought comes to our mind that what people would think and talk about you and shyness takes over your mind.

At such times, you can recall this formula ('So what?') What happens if you do any mistakes no one is going to harm you. If



you think deeply about this, nothing happens which affects you, Confident face always looks bold, active and good. If you ask yourself a question "So What?" the answer you will get is 'nothing'.

But a word of caution. Do not over use it & use it only when you have worked hard for some goal and you failed inspite of your hard work.

*Sushmita Tanaji Kharate*  
S.Y.B.Sc. (PM)



## Song of Life

Love is the beauty of life.  
Life is the wheel of change.  
Change is the rule of nature.  
Nature is the creation of god.  
God is master of mortals.

He makes man winner.  
The winner defeats the devil.  
Devil is always destructive.  
And tries to destroy the harmony of the world.  
It is he (the God) who saved us  
from all destructions.



## लहानपण कशाला म्हणतात ?

जेव्हा सगळे खूप  
लाड करतात,  
जवळ घेऊन गोड-गोड  
पापा घेतात,  
गालगुच्चा घेऊन-घेऊन  
गाल लाल करतात  
लहानपण हयालाच म्हणतात....

चुकी झाली की,  
शिक्षा करतात,  
चांगल्या गोष्टींना  
शाब्बासकी ही देतात,  
जवळ-जवळ आपले सर्व  
हट्टही पुरवतात,  
लहानपण हयालाच म्हणतात....

चांगल्या कामासाठी  
प्रोत्साहन देतात,  
वाईट कामांसाठी  
रागही करतात  
आणि जेव्हा क्षमा मागतो  
तेव्हा मिठीत घेतात  
अशा सुंदर क्षणांनाच  
लहानपण म्हणतात....

लहानपणीचे क्षण एवढे  
सुंदर का असतात.....?

कितीही केलेल्या चुका  
आई-वडील क्षमा करतात  
नको असलेले मोठे-पण  
आयुष्यात येते,  
आणि जणू काही आयुष्यातले

सुखाचे क्षण हिरावून नेते  
काहीवेळा तरी आठवणी  
भूतकाळात नेतात.  
अस्वस्थ झालेल्या मनाला शांत  
करतात,  
जेव्हा जेव्हा या आठवणी  
भुतकाळात नेतात  
तेव्हा तेव्हा जणू त्या आठवणी  
जीवंत होतात.



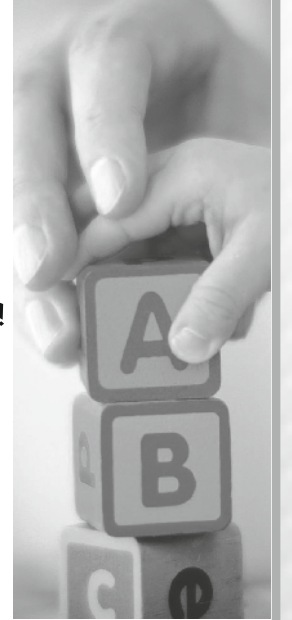
प्रतिक्षा वसंत चव्हाण  
S.Y.B.Sc. (Micro biology)



## नव्या नजरेने जीवनाकडे बघ !

जन्माला आला आहेस तर,  
थोडे जगून बघ !  
शाळेत आला आहेस तर,  
थोडे शिकून बघ !  
निराशा मनात असेल तर,  
कुठे तरी आशा जागवून बघ !  
रडत असतानाही,  
कशावर तरी हसून बघ !  
संकटांना न डगमगता  
जरा हिमंत करून बघ !  
जीवन साकार करताना  
शिल्पासारखे घडवून बघ !

जीवन हे खूप सुंदर आहे  
जरा त्याची सुंदरता अनुभवून बघ !!



दिपाश्री डोके  
F.Y.J.C. (A)





## प्रेमातलं राजकारण

एक पोरगी भरली लई-लई या मनात.  
म्हणलं ईलाच कारभारीण म्हणून नेऊ घरात.

पहिल्या दिवशी भेटायला गेलो,  
भाजपच कमळ भेट देऊन आलो.  
दुसऱ्या दिवशी जरा हटके केलं,  
राष्ट्रवादीच घड्याळ हातात बांधलं.

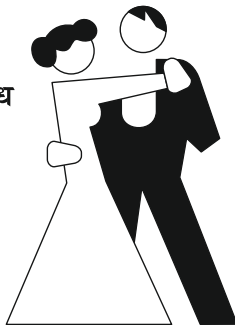
तिसऱ्या दिवशी जरा विचार केला,  
अपक्ष जाण्याचा निर्णय घेतला.  
आज मी काही नाही नेलं म्हणून तिनेच पुढाकार घेतला,  
अन् काँग्रेसचा पंजा जोरात गालावर मारला.

कळलच नाही पुढील दिवशी,  
कशी काय जादू झाली.  
स.पा.च्या सायकलवर बसून ती माझ्याकडे आली,  
अन् सॉरी म्हणून निघून गेली.

कदाचित माझ्या आधीच्या राजकीय खेळीने  
कमाल केली होती.  
अन् प्रेमाची निवडणूक मी बिनविरोध  
जिंकली होती.

किर्ती वि.बाम्हणे

F.Y.B.Sc. (IT)



## आई

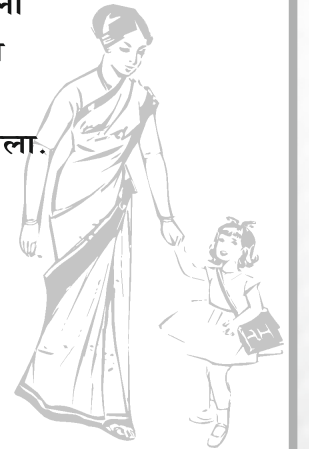
अडणाऱ्या रस्त्यावर  
कसे टाकावे पाऊल ?  
याची प्रत्येक वेळी  
देते ती चाहूल.

शिकवले तिने मला  
उंच उंच उडायला  
नाही अडायचे  
कोणत्याच धड्याला.

काही गोष्ट शिकताना  
मी चुकायची खूप  
सुधरवताना त्या चुका  
दाखवायची ती तिच रूप.

दुःखाच्या प्रत्येक क्षणाला  
देते ती साथ.  
बाजी मारली संकटाची की  
मिळवतेही हात.

अशा या देवतेची  
मूर्ती किती महान.  
दुसरी-तिसरी कोणी नाही  
ती माझी आई छान.



गौरी उत्तम आंबेरकर

F.Y.B.Sc. (CBZ)



## नॅनोदय

**का**य आहे काय ही नॅनोटेक्नॉलोजी? एवढं काय गौडबंगाल दडलयं या तंत्रज्ञानात? नॅनोटेक्नॉलॉजी म्हणजे अतिसूक्ष्म पदार्थ किंवा यंत्र बनवण्याच तंत्रज्ञान. अतिसूक्ष्म म्हणजे किती सूक्ष्म? तर आपल्या रक्तातल्या पेशीपेक्षाही सूक्ष्म असे लहान पदार्थ किंवा अशी यंत्र बनवणं या गोष्टी व्यवहारात कशा वापरता येतील याचा विचार करणं म्हणजेच नॅनोटेक्नॉलॉजी आणि अतिसूक्ष्म वस्तूंचा अभ्यास करणं त्या कोणते नियम पाळतात हे शोधणं म्हणजे नॅनोसायन्स! एकविसावं शतक नॅनोटेक्नॉलॉजीचं असेल, नॅनोटेक्नॉलॉजीमुळे भविष्यात आपलं आयुष्य पूर्णपणे बदललेलं असेल.

‘नॅनो’ हा मुळातला ग्रीक शब्द आहे. त्याचा अर्थ लहान किंवा सूक्ष्म असा होतो. लहान म्हणजे किती लहान? तर एक नॅनोमीटर म्हणजे १ भागिले १ वर ९ शून्यं (१/१०००००००००) इतके मीटर किंवा एका मीटरचा एक अब्जांवा भाग. मीटरचा शंभरावा भाग म्हणजे सेंटिमीटर आपलं बोट एक सेंटिमीटर जाड असतं मीटरचा हजारवा भाग म्हणजे मिलीमीटर एक रुपयाच्या नाण्याची जाडी एक

मिलीमीटर असते. एका मिलीमीटरचा एक हजारावा भाग म्हणजे एक मायक्रोमीटर आणि एका मायक्रोमीटरचा एक हजारावा भाग म्हणजे एक नॅनोमीटर!!!

कोणताही पदार्थ नॅनो मापाचा केला तर त्याचे गुणधर्म बदलतात. (उदा. ५० नॅनोमीटर लहान सोन्याची तार सोनेरी न दिसता गुलबक्षी रंगाची दिसते व तिच्यात चुंबकीय गुणधर्म निर्माण होतो) हाच नॅनोटेक्नॉलॉजी पाया आहे. नॅनोटेक्नॉलॉजी म्हणजे नुसतं हे असे वेगवेगळे पदार्थ आणि वस्तूच बनवणं नाही अगदी एकेक अणुरेणू जोडून अतिसूक्ष्म यंत्र बनवणं हे नॅनोटेक्नॉलॉजीचं अंतिम उद्दिष्ट आहे. आज जी यंत्र आपण वापरतो त्याचा आकार नॅनोटेक्नॉलॉजी वापरून बनवल्यामुळे अतिसूक्ष्म होईल. इतकच नाही तर त्याची कार्यक्षमताही अफाट वाढलेली असेल. ही यंत्र चालवायला उर्जाही अगदी कमी लागेल आणि बहुतांशी सौरउर्जा वापरून ही यंत्र चालवली जातील. नॅनोस्तरावरचं विज्ञान सोपं नाही अतिसूक्ष्म पदार्थ आपल्या नेहमीच्या वस्तूपेक्षा अतिशय अस्थिर असतात. त्यामुळे नॅनोपदार्थ बनवणं कठीण आहे व त्याला थोडा वेळ लागेल.

नॅनो तंत्रज्ञानाचा योग्य वापर मानव जातीसाठी कल्याणकारीच ठरेल आणि त्यातूनच नॅनोचे आणि पर्यायाने माणसाचे भवितव्य सुरक्षित राहिल, हे निर्विवाद.



**वैष्णवी सामंत**

F.Y.B.Sc. (Biotech)





# विद्या विनयेन शोभते



**ज्ञ**ानासारखी पवित्र गोष्ट या जगात दुसरी कोणतीही नाही असे श्रीमद्भगवद्गीतेत श्रीकृष्णानेच सांगितले आहे. वामन पंडितांनी विद्येचा गौरव करताना एका श्लोकात म्हटले आहे.....

न चोराला लाघे, प्रकट न दिसे, दे सुख सदा,  
दुणावे की देता, किमपि न सरे लेशही कदा ।  
न कल्पांती पावे निधन, धन विद्याभिध असे  
असे ज्याचे त्याशी प्रतिभति ते पामर

आपल्या भारतामध्ये ज्ञानाचे व विद्येचे महत्त्व फार प्राचीन काळापासून मानले गेले आहे. जगातील इतर देश जेव्हा रानटी अवस्थेत होते तेव्हा भारतीय लोक ज्ञानोपासनेत मग्न झाले होते.

म्हणून ज्ञानप्राप्तीसाठी परदेशातून विद्यार्थी व विद्वान भारतात येत असत.

आज भारत आपले गुरुस्थान गमावून बसला आहे. पुन्हा एकदा भारतास ज्ञानाच्या क्षेत्रात उच्च स्थान मिळवून देण्यासाठी आपण परिश्रम आणि प्रयत्न केले पाहिजेत.



वैभव बी. संसारे  
F.Y.B.Sc. (C)



## आईचा जोगवा

मला तुझ्याबद्दल जेवढं वाटतं  
तेवढचं तुलाही वाटावं  
असं मी म्हणत नाही!  
आम्ही तुझ्यासाठी थोडं झिजतोय  
पुढे तुम्ही झिजाव....  
अशी आमची अपेक्षा ही नाही!  
तू निघताना माझे डोळे पाणावलेत  
तुझ्या डोळ्यातही पाणी यावं...  
असं ही मला वाटत नाही!  
तू बराच मोठा झालास  
हे नं समजण्याइतकी लहान  
आता मी ही नक्कीच नाही!



तुला घरात बंदिस्त करावं  
कायम माझ्या जवळ ठेवावं  
एवढी स्वार्थी मी खचितच नाही!  
मात्र माझं पिल्लु घरातून उडतयं  
क्षितीजावर भरारी मारतयं  
घरातं माझं रितं होतयं  
हे स्विकारायला मन तयारही नाही!  
पण....खरचं, खुप 'मोठा' हो, 'माणुस' हो,  
संपन्न हो, सुखी हो.....  
फक्त आईच्या अश्रुंची किंमत  
'शून्य' ठरवु नकोस  
एवढचं माझं 'मागणं' आहे!

पवन पाटील  
F.Y.B.Sc. (CBZ)

# हसना जरूरी है



चूहा (शेरनी से बोला) :-

आई लव्ह यू डीयर.

इस पर शेरनी को गुस्सा

आया और बोली :-

ऐसी बात कहने से पहले

अपनी औकात तो देख लें

चुहा (प्यारसे) :-

अरे पगली, मेरी औकात पे मत जा,

मेरी कान्फिडेंस देख कान्फिडेंस.

शर्मा की पत्नी बार-बार बेटे को फल खाने को बोल रही थी पर वह हर बार नकार जाता।

शर्मा की पत्नी : बेटा, सेब खा लो।

छोटा शर्मा : ना!

शर्मा की पत्नी फिर बोलती है : बेटा, केला खा लो।

छोटा शर्मा : नहीं !

शर्मा की पत्नी (गुस्से में) : तू अपने बाप पर गया है, चप्पल ही खाएगा।

मीना (रिना से) :-

अचानक ही तुम बचत करने लगी हो।

रिना (मीना से) :-

हाँ, यही मेरे पति की आखिरी ख्वाहिश थी, डूबते समय वे यही कह रहे थे बचाओ-बचाओ।

जगू : सोच रहा हूँ, की अमेरिका घूम कर आता हूँ, कितना पैसा लगेगा?

मग्गु : कुछ भी नहीं.

जगू : कैसे ?

मग्गु : सोचने के लिए पैसे नहीं लगते !



बीवी को थप्पड मारने के बाद,

पती : आदमी उसी को मारता है,

जिसे वो प्यार करता है।

बीवी ने भी २ खींच के मारे और धीरे से बोली.....

पत्नी :-

आप क्या समझते हो, मैं आपसे प्यार नहीं करती....

अन्वर मियाँ एक बार जंगल के रास्ते अपने घर जा रहा था. रास्ते में एक चुडैल ने उसका रास्ता रोका और बोली, “हा...हा....हा.....

जानते हो? मैं चुडैल हूँ”

अन्वर ने कहा : हाँ मुझे मालूम है क्योंकि तेरी बहन मेरी घर पर है।

मुआयने के बाद डॉक्टर ने मरीज से पूछा,

“तुम्हें खांसते समय सबसे ज्यादा तकलीफ कब होती है?”

मरीज :-

“जब पड़ोसी का कुत्ता मेरी खांसी का जवाब देना शुरू कर देता है”

मरीज : उमर लंबी करने का कोई तरीका बताईये।

डॉक्टर : शादी कर लो।

मरीज : इस से उमर लंबी हो जाएगी?

डॉक्टर : नहीं, पर दो फायदे हैं, एक लंबी जिंदगी की रब्बाहिश खत्म हो जाएगी, दूसरा बचीखुची जिंदगी लंबी लगने लगेगी।

प्रा.प्रकाश माळी  
रसायनशास्त्र विभाग







## बायको

तरुणपणी मनाने  
नाकारलेली बायको,  
म्हातारपणी प्यारी वाटते.  
तेव्हा तिचा सहवास म्हणजे  
आळंदीची वारी वाटते  
जेव्हा आपल्या वयाची साठी होते  
तेव्हा बायकोच आधाराची काठी वाटते  
मग तिने केलेली सेवा  
कितीतरी बरी वाटते  
अशावेळी म्हातारपणी  
आपलीच बायको आपल्याला  
परी वाटते.

प्रकाश महादेव लटके

## विश्वास ठेव

इतकी वाईट नाही मी,  
जितका तू आज समजतोस.  
जे करते ते मी आपल्या  
भल्याचेच करते,  
या मार्गातून जाण्यास  
परिस्थितीने मला भाग पाडले,  
या मार्गात मी चुकले  
हे सिद्ध करण्यास तू  
समर्थ आहेस,  
पण मला माहित आहे,  
मी चुकले नाही  
हे सारे आपल्या हितासाठी केले  
म्हणून तू माझ्यावर  
विश्वास ठेव.

कोमल नरेश पाटील  
F.Y.B.Sc. (B)



## विद्यार्थी हा नवयुगाचा

हाय फ्रेंड्स वॉट्स अप.....!  
म्हणता-म्हणता जन्म तुझा झाला रे!  
संस्काराची जुनी मूल्ये धुडकावूनी,  
तू असा का झाला रे.....?

रॉक बॅन्डच्या नादात,  
शास्त्रीय संगीताला विसरलास रे!  
नाटक, संगीताच्याही कलेला छेद  
देण्यास,  
तू तयार कसा झाला रे.....?

स्मार्टफोन, टॅबलेटच्या युगात,  
कांदबरी, वर्तमानपत्र विसरलास रे!  
ग्रंथ सरस्वतीलाही विसरण्यास,  
तू तयार कसा झाला रे.....?

फेसबुक, वॉट्स अप च्या दुनियेत,  
नात्यांनाही तू विसरलास का रे!  
आई-वडील, समाज यांनाही वेळ नाही,  
तू कोरडा असा का झाला रे.....?

चॅटिंग अन् एम.एम.एस. च्या दुनियेत,  
सायंकाळची शुभंकरोती विसरलास रे!  
संस्कृतीलाही छेद देण्यास,  
तू तयार कसा झाला रे.....?

थांब विद्यार्थ्या विचार कर,  
खरचं आपण चुकतोय का रे...?  
ई-लर्निंग, टेक्नॉलॉजीच्या दुनियेत,  
जुन्यातलं चांगलपण विसरतोयस का रे.....?

ऋषिकेश रामनाथ मुळे  
F.Y.B.Sc. (PCM)

# TIFFIN MAY KYA

Lunch Box, Dabbā or Tiffin is always an important issue and of utmost importance in a student's life. Mom is anxious if the food she packed in her child's Tiffin is nutritious enough? Is the quantity sufficient to sustain her child for 7-10 hours? So she gets up early morning...cooks and packs one or two tiffin boxes for her child...but the big question still remains...What to pack every day and every week.

Students look at the lunch box with distaste and disgust because eating the same boring food, day after day is pathetic. Having fast food served roadside seems tempting. It is inexpensive and mouth-watering...egging you to indulge your taste buds...so the lunch box goes down the drain and the fast food goes into the stomach. Alas! This is one of the reasons for some teen related problems...Acne, Pimples, Constipation, Loose motion, Stomach ache, Obesity, Malnutrition etc. to name some.

So, here are the tips to make some simple healthy adjustments in your tiffin and watch the boring tiffin turn into friend's envy and your pride.

1. Wheat – Roti, Chapatti, Puri or Paratha made from Wheat flour is filling and nutritious. There are 100 or more variations, try them. To make the simple Wheat flour interesting...mix it with Nachni flour, Soyabean flour etc. or make Bhakri. Stuffed Chapatis and Parathas made from Cabbage, Methi leaves, Coriander, Carrots, Paneer etc. will add to the nutritive value. So be creative with the stuffing and every day

you can have a new stuffing.

But avoid Maida flour and use Whole wheat flour, which is low in Saturated fat, Cholesterol and Sodium. Whole wheat flour is also a good source of Dietary fibre and contains Manganese, Copper, Magnesium, Pantothenic acid and Selenium. These keep your body healthy and if you select 100% whole wheat product, the bran and the germ of wheat will remain and the health benefits will be impressive. Roti and Sabji (cooked vegetables) is a good lunch option.

2. Brown rice – Change your preference from White Rice to Brown Rice. Fried rice with lots of vegetables and soybean nuggets adds to the nutrition quotient. Brown rice is an excellent source of Manganese, Fibre, Copper, Magnesium, Niacin (Vitamin B3), Phosphorus and Selenium, so can be included in your tiffin once in a while.
3. Curd or Yogurt – It is low in saturated fats and cholesterol. Good source of Protein, Vitamin B12, Pantothenic acid, Potassium and Zinc, good source of Riboflavin, Calcium and Phosphorus, thus a healthy option. Have in moderate quantity as a large portion of the calories, comes from sugars. Home-made curds are good but Yogurt variations are found in market in several fruit flavours like Strawberry, Mangoes, Kesar etc. Smoothies also serve as a good tiffin option, once in a while. Curd strengthens



the Immune system along with other innumerable benefits so it is one good choice to be included in a lunch box.

4. Paneer – it can be used in fried rice or whole wheat grain stuffed Roti's and Paratha. It is a filling option for tiffin. Paneer is a good source of Phosphorus and Selenium and a very good source of Protein. It should be used in moderation as it is also a rich source in Sodium.
5. Salads – the first step in a healthy diet. Sounds boring but it is the in- thing, very much in vogue. Experimenting with vegetables, fruits and nut can transform a boring food actually into something interesting and tasty. Green salads are excellent source of fibre, antioxidants, vitamins and minerals. Sprouts are a good tiffin option. Salads helps in weight loss, boosts immunity and there are plenty of other advantages.
6. Bread - Brown bread or whole wheat bread should be preferred. Be innovative with sandwiches. Be creative keeping the nutritional quotient in mind.
7. Butter – Loni or homemade butter is a good substitute for commercially sold butter. Cheese in moderate quantity is good. Peanut butter sold as Nutella is good. Sandwiches can be made tasty by adding chutneys or mayonnaise once in a while.
8. Chutneys – Chutneys can be wet or dry, made from Condiments, Fruits or Vegetables. It can be coarsely ground or be a fine paste. Sweet, Sour or Spicy but they are an integral part of our diet. Mint, Coriander, Green Chilli, Tamarind chutneys can be mouth-watering. Include some for its Chat-Pata taste.

9. Fermented food – fermented food like Dosa, Idli, Dhokla etc. is easy to digest.

10. Fresh fruits - Any seasonal fruit like Apple, Pear, Guava, Cucumber etc. can be kept in one corner of your bag. To be eaten when hunger pangs hits you and your tiffin is over. An Orange in afternoon can be refreshing.

11. Egg – Non vegetarians can carry Boiled Egg with salt and pepper, Omelette or a simple Scrambled Egg. Roti and Egg combination once a week is a wonderful change from daily vegetarian tiffin.

12. Two water bottles one with plain water and another with some Fruit juice, Plain Lemon Water, Coconut water or Hot Milk with added supplements of choice for students who come to college early morning.

Grabbing a Burger, Potato Chips, Sweet Candy or Soda seems an easy option to satisfy the hunger pangs after long hours in college. Stuffing your mouth with fries rich in fats and calories rich soda will slow you down so snacks for the second tiffin should be selected with care. Upma, Poha, Fruit salads, Fruit leather, Dried fruits, Biscuits rich in fibre etc. helps students since healthy snacks with high nutrition level keeps the energy level high and mind alert.

Teenage aches (Acne, Pimples, Constipation, Loose motion, Stomach ache, Obesity, Malnutrition etc.) somewhat disappears and in the long run healthy eating habits build up a healthy body and a healthy mind. So six days in a week and week after weeks opt for healthy food – Remember “Health is Wealth.”

**Dr. Moitreyee Saha**  
Department of Botany



## Eratosthenes & radius of Earth

**I**s the Earth flat or shaped like a ball? This question had figured frequently in different civilisations and there were long arguments for and against.

In ancient Greece, this issue was settled by Eratosthenes, a mathematician, librarian, astronomer, athlete, poet ? In short a man with multifaceted personality. He operated from Alexandria around 240 BC.

Eratosthenes found an ingenious way of measuring the radius of the Earth, assuming that it is shaped like a ball. His basic idea can be explained in this way. He noted that in a place called Syene, south of Alexandria, the walls of a structure cast no shadow at noon on or around June 21 (the longest day of the year: also known as the summer solstice).

This was because the Sun was overhead at that time at Syene. However, on the same day, at the same time, a vertical pillar in Alexandria cast a small shadow. This meant that the Sun was not overhead at Alexandria. If the Earth were flat, then

the vertical directions at all points on it would be parallel and the Sun would be overhead at the same time everywhere. So the above finding implied that the Earth cannot be flat.

Thus the observations seemed to suggest that if we select two places on the same longitude separated by an appreciable distance then vertical sticks planted there would have directions passing through the centre of the sphere that is the Earth. If the Sun is vertically above Syene at noon, then its rays would make a small angle with the vertical at Alexandria. Thus the stick planted in Alexandria would cast a small shadow there. The measurement of the length of the stick and the shadow will allow us to determine that small angle, which happens to be around 7 degrees.

Eratosthenes then measured the distance between Alexandria and Syene by making an army walk the stretch! The distance was about 800 kilometres. He then argued that if a distance of 800 km changes the angle at the centre to 7 degrees, then in proportion, a walk round 360 degrees (complete round of the Earth) would involve a distance of 40,000 kilometres. Therefore, this must be the circumference of the Earth and the corresponding radius would therefore be around 6363 km. Eratosthenes had obtained a value with an error of 5-10% at most.

It is worth noting that in India Aryabhata also recorded the circumference of the Earth as around 4,967 yojanas, which in modern units is 39,968 km, which is only 62 km less than the current value of 40,030 km. He, however, did not give a clue to how he got this value.

**Prof. M. Ashwin**  
Dept. of Physics

# मैत्री आपली

**ए** का गावात रमेश आणि गणेश नावाचे दोन मित्र राहत होते. शालेय जीवनापासून ते एकत्रच होते. शाळेत असतानाच त्या दोघांची मैत्री झाली होती. शाळेत असताना गणेश हा स्वतःचा अभ्यास स्वतःच करायचा. गृहपाठ ही दिलेल्या वेळेत पूर्ण करायचा, परंतु रमेश हा थोडा आळशी होता तो घरचा अभ्यास आपल्या मोठ्या बहिणीकडून करून घ्यायचा आणि गृहपाठही आजचा उद्या, उद्याचा परवा करत पूर्ण करायचा. ते जेव्हा मोठे झाले तेव्हा त्यांच्या सवयी सध्या तशाच राहिल्या.

गणेश हा स्वभावाने सालस, मन लावून अभ्यास करणारा तर रमेश स्वभावाने आळशी, परिक्षा जवळ आल्यावर अभ्यास करणारा. परंतु या दोघामधली मैत्री खूप चांगली होती. कधी न तुटणारी, एकमेकांस मदत करणारी. गणेश रमेशला त्याच्या सवयी बदलण्यास कित्येक वेळा सांगत असे पण, रमेश त्याच्या सवयींचा इतका गुलाम झाला होता की, त्या सुटण्याचे नाव घेत नव्हता.

दोघांना जेव्हा नोकरी मिळाली ती सुद्धा एकाच कंपनीत आणि सारख्याच पगाराची. नोकरी करतानाही गणेश आपलं काम वेळेत पूर्ण करायचा. तर रमेश दिलेले काम आजच उद्या करत पूर्ण करायचा. तो इतका आळशी होता की, तो कधी कधी आपलं काम आपल्या सहाय्यक अधिकाऱ्यांकडून पूर्ण करून घ्यायचा. नोकरीच्या संदर्भात त्या दोघांना दुसऱ्या शहरात स्थलांतर करावे लागले होते. तिथे ते एकाच रुममध्ये रहायचे. रमेशची घरची परिस्थिती तशी चांगली होती. परंतु गणेशची घरची परिस्थिती हालाखीची होती. त्याचा अध्यपेक्षा जास्त पगार घरच्यांवर खर्च व्हायचा आणि जेव्हा गणेशला पैशांची



गरज लागायची तेव्हा रमेश त्याला मदत करायचा.

एके दिवशी छोट्या कारणांवरून त्यांच्यात वाद झाला. वाद वाढतच गेला रमेश रागाने गणेशला म्हणत होता की, तू जो आहेस तो माझ्यामुळे, मी तुझ्यापेक्षा मोठा आहे, आणि सवयींच्या गोष्टी काय करतोस..... रमेश गर्वाने बोलत आहे हे गणेशला कळून चुकलं होतं, पण मित्राला त्याची चूक समजावून देणे ही तितकेच गरजेचे होते म्हणून गणेश नम्रपणे म्हणाला, “तू माझ्यापेक्षा मोठा आहेस आणि तू मला मदत सुद्धा करतोस ही गोष्ट मला मान्य आहे परंतु तुझ्या या सवयी तू आताच सोडल्या नाहीस तर या सवयींमुळे तुझं एके दिवशी मोठं नुकसान होईल.



रमेश ऐकण्याच्या मनस्थितीत नव्हता. त्यांच्यातील वाद विकोपाला गेला. आपल्या ऑफिसमधले दोन अधिकारी आपापसात बोलत नाही ही गोष्ट त्यांच्या मोठ्या अधिकाऱ्याने जाणली होती. त्यांनी त्यांच्यातील वाद मिटविण्याचा प्रयत्न देखील केला पण सर्व व्यर्थ ठरले. दोघांची बाजू समजावून घेतल्यानंतर त्यांच्या मोठ्या अधिकाऱ्याने एक युक्ती केली. त्याने दोघांना एक अवघड काम दिलं ते त्यांना दोन दिवसात पूर्ण करायचं होत. काम इतक अवघड होत की, ते दोन दिवसात पूर्ण करणे जरा कठीणच होतं. गणेशने आपल्या सवयीप्रमाणे जोमानं व कुषाग्र बुद्धीमत्तेच्या जोरावर ते काम दोन दिवसात पूर्ण केले परंतु रमेशने ते काम नेहमीप्रमाणे सहाय्यक

अधिकाऱ्यांकडे दिलं परंतु काम इतके अवघड होत की ते त्यांना जमलं नाही. हे सर्व करण्यात रमेशचा एक दिवस व्यर्थ गेला होता, आता त्याच्याकडे एकच दिवस उरला होता आणि ते काम एका दिवसात पूर्ण करणे अशक्य होतं. रमेशला त्याची चूक समजली, त्याला पश्चाताप झाला शेवटी गणेशच्या मदतीने त्याने काम पूर्ण केले व गणेशची माफी मागीतली.

**तात्पर्य :-** चांगल्या सवयींना खत घातले पाहिजे, तसेच वाईट सवयींना वेळेवर आळा घातला पाहिजे. वाईटसवयी वेळेत सुधारल्या नाहीत तर भविष्यात त्या खूप मोठं नुकसान करू शकतात.

विशाल विनोद बिन्हाडी  
T.Y.B.Sc.



## विनोद

लिलाबाई : गहू कसे आणलेस?

शिलाबाई : पिशवी तून

लिलाबाई : अगं नाही,

म्हणजे कोणत्या भावाने आणले?

शिलाबाई : चुलतभावाने.



विचार करण्यासारखी गोष्ट आहे

कप उचलताना शॉक का बसतो? ....

विचार करा....

....

.....

कारण, वीज कपात आहे.

शिवा : काय रे, जिवा,

तू बसने प्रवास का नाही करत?

तुझ्याकडे पैसे खूप आहेत का?

जिवा : नाही रे, मला बसमध्ये धोका आहे.

शिवा : धोका?

जिवा : बसमध्ये लिहलेल असतं....

चालत्या बसमध्ये चढू किंवा उतरू नका..

जिवाला धोका आहे.



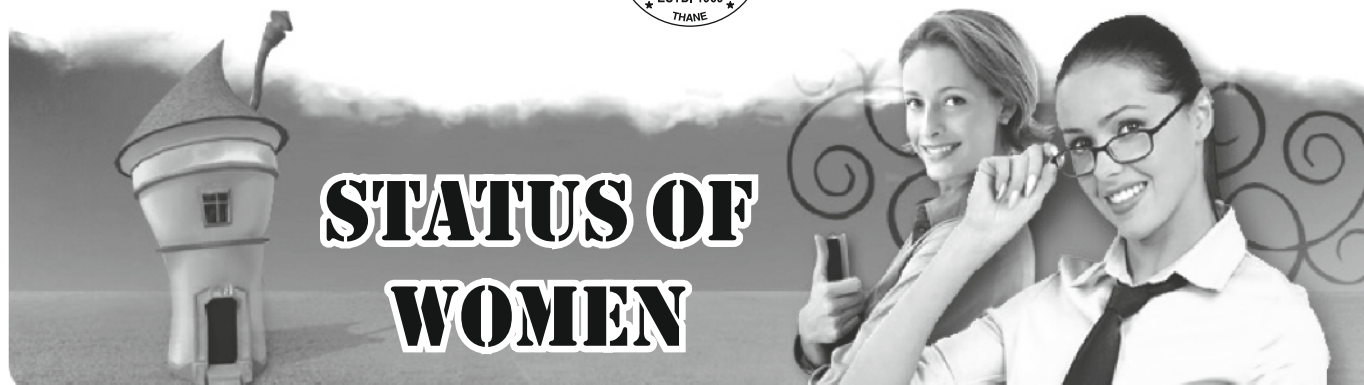
अ: मला सांगा दोन माणसांमधून एक माणूस  
गेला किती राहिले?

ब: एक.

अ: चूक. बघ, दोन माणस उभी आहेत

त्यांच्या दोघांच्या मधून एक माणूस गेला.

विशाल विनोद बिन्हाडी  
F.Y.B.Sc.



## STATUS OF WOMEN

**W**hat should be the career for women ? This question has aggitated the minds of men in every country and at all times.

Some are of the opinion that women should be given equal rights in all respects. They say that women should be given perfect freedom for choosing their careers. There are others who are totally of opposite opinion and that is the women's place is at home. They oppose women joining any career. They say that women should do the domestic work and take care of children.

But as we examine the present situation it comes as a shock to the people who insist that women's place is at home. Today women are doing wonderfully well as school teachers and college professors. As a clerk and of course as engineers and doctors. Many of the companies appoint women as an executive or as an accountant.

Women are also joining NCC, Police service and its live example is Ms.Kiran Bedi. Women even join airforce, the army and the navy. Many women. are doing excellently in politics too. Mrs. Indira Gandhi is a glaring example of what wonders woman can do in the field of politics. Womens are reaching the great highs in their fields. We can see many glaring examples such as, Sunita Williams as

Indian in space. Pratibha Patil as first Indian President etc.

Today it has been amply illustrated that women are not in any way inferior to men. They have proved their worth in every field. Today woman have acquired a glorious status and they have shown their talent in every sphere of life. And if it is so, why should they be prevented from entering any career they like? Let women become doctors and engineers, teachers and clerks and officers or even join military or defense services. They will surely discharge their duties as efficiently as men. Let there be fair play and no favoritism.

But one question remains to be tackled. If women opted for jobs. What about the family responsibilities such as bringing up kids, taking care of family members, maintaining relations among family members, preventing kids from going into bad company and so on.

So it is very necessary for every women to get good educational qualification and serve for the country along with the men if the need be as well as discharge the family responsibilities.

**Gaurav C. Thakur**  
T.Y.B.Sc.



*Never explain yourself. Your friend don't need it & your enemies won't believe it.*

**- B'elgicia Howell**

*If we cannot love the person whom we see, then how can we love god whom we can't see.*

**- Mother Teresa**

*The Education is a Key, to unlock the golden door of freedom.*

**- George Washington Carver**

*Pain never really goes away; you just elevate & get used to it by growing stronger.*

**- Philippos**

*Education is not the answer to the question. Education is the mean to the answer to all question.*

**- William Allin**

*Three sentences for getting success know more than other / work more than other / expect less than other.*

**- William Shakespeare**

*Education is helping the child realise his potentialities.*

**- Earic Fromm**

*Never break four things in our life Trust, Relation, Promise & Heart because when they break, they don't make noise but pain a lot.*

**- Charles Dickens**

*Children have to be educated, but they have also to be left to educate themselves.*

**- Ernest Dimnet**

*If you judge people, you have no time to love them.*

**- Mother Teresa**

*When I compete, my mind is full of doubt Who will finish second, who will finish third?*

**- Muhammod Ali**

*If you give what you do not need, it is not charity.*

**- Mother Teresa**

*In a day when you don't come across any problems, you can be sure that you are travelling in wrong direction.*

**- Swami Vivekananda**

*The first and most important step toward success is the feeling that we can succeed.*

**-Nelson Boswell**



*We don't fight for war, We fight for defence of our nation, for this we can cross many hurdles.*

*Victory is not the property of brilliants, It is the crown for those who bow themselves in front of hard work & confidence.*

## ॥ Jai Hind ॥

*Education is window of success always see from that window, whole world is with you.*

*Life can never be perfect, but you can always see it in perfect way.*

*Success will never be a big step in the future, success is a small step taken just now !*

*"Don't accept other's defination of life". It's your life define it your self, the way you love it and the way u want it to be.*

**P. P. Kadam**  
F.Y.B.Sc. (PCM)



## दुःखी होना नही

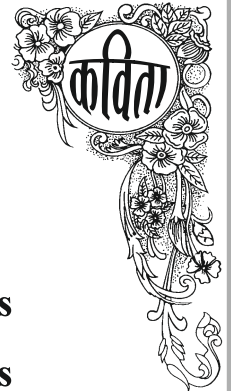
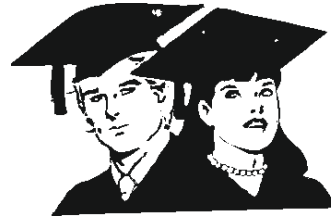
किसी के हसाने से हसना जरूर ।  
किसी के रुलाने से रोना नहीं ।।  
पल भर की खुशियों से खुश हो ले तु ।  
इस दुःख भरी दुनिया से दुखी होना नही ।।

उगते सुरज को देख के खुश हो ना मन ही मन ।  
सोच कि अपना भी खुशहाल होगा जीवन  
ढुंड पास मे, तेरे खुशियां होगी  
इस दुःख भरी दुनिया से दुखी होना नही ।

निराश हो के तु ना बैठ, उदास हो के तु ।  
हर पल को जी ले तु बिना एक पल को खो के तु ।।  
अगर पास है कठिणाईया तेरे ।  
तो सफलता भी दुर नही ।  
इस दुःख भरी दुनिया से दुखी होना नही ।।

मदद करते जा सबकी वो काम तेरे आएगा ।  
दुःख तुझे है सता रहा तो वो ही जीना सिखाएगा ।।  
कर परिश्रम तोल के क्या गलत क्या है सही ।  
इस दुःख भरी दुनिया से दुखी होना नही ।।

विक्रमसिंग राजपूत  
S.Y.B.Sc. (PM)



हम होंगे All pass

हम होंगे All pass

एक दिन

हो, हो.....

सोते है बिनधास्त ।।

लिखते है बकवास ।।

करते है टाईमपास ।।

फिर भी है विश्वास ।।

मार्क मिलेंगे झकास ।।

एक दिन हो, हो.....

प्रतिक पी. कदम  
F.Y.B.Sc. (PCM)

## Historical Introduction of Gravitation



The year 1665 was very fruitful for Isaac Newton. He was forced to take rest at his home in Lincolnshire after his college at Cambridge was closed for an indefinite period due to plague. In this year, he performed brilliant theoretical and experimental tasks mainly in the field of mechanics and optics. In this same year he focussed his attention on the motion of the moon about the earth.

The moon makes a revolution about the earth in Time = 27.3 days. The distance of the moon from the earth is  $R = 3.85 \times 10^5$  km. The acceleration of the moon is therefore,

$$a = \omega^2 R$$

$$= 0.0027 \text{ m/s}^2$$

The first question before Newton was, what is the force that produces this acceleration? The acceleration is towards the centre of the orbit, that is towards the centre of the earth. Hence the force must act towards the centre of the earth. A natural guess was that the earth is attracting the moon. The saying goes that newton was sitting under an apple tree when an apple fell down from the tree on the earth. This sparked the idea that the earth attracts all bodies towards the centre. The next question was what is the law governing this force?

Newton had to make several daring assumptions which proved to be turning points in science and philosophy. He declared that the laws of nature are the same for earthly and celestial bodies. The force operating between the earth and an apple and that operating between the earth and the moon, must be governed by the same laws. This statement may look very obvious today but during his era in

western countries there was a belief that earthly bodies and heavenly bodies are governed by different rules.

The acceleration of a body falling near the earth's surface is about  $9.800 \text{ m/s}^2$ . Thus,

$$a_{\text{apple}} = \frac{9.8 \text{ m/s}^2}{\text{distance of apple from earth}}$$

$$a_{\text{moon}} = 0.0027 \text{ km/s}^2$$

Also,  $\frac{\text{distance of moon from earth}}{\text{distance of apple from earth}}$

$$= \frac{d_{\text{moon}}}{d_{\text{apple}}} = \frac{3.85 \times 10^5 \text{ km}}{6400 \text{ km}}$$

$$\approx 60$$

$$\text{Thus, } \frac{a_{\text{apple}}}{a_{\text{moon}}} = \left( \frac{d_{\text{moon}}}{d_{\text{apple}}} \right)^2$$

Newton guessed that acceleration of a body towards the earth is inversely proportional to the square of the distance of the body from the centre of the earth. Thus,  $a \propto \frac{1}{r^2}$

Also, the force is mass times acceleration and so it is proportional to the mass of the body.

$$\text{Hence, } F \propto \frac{m}{r^2}$$

By the third law of motion, the force on a body due to the earth must be equal to the force on the earth due to the body. Therefore, this force should also be proportional to the mass of the earth. Thus, the force between the earth and a body is

$$F \propto \frac{Mm}{r^2} \quad \text{or} \quad F = \frac{GMm}{r^2} \quad \dots \dots (1)$$

Newton further generalised the law by saying that not only the earth but all material bodies in universe attract each other according to above equation with same value of G. The constant 'G' is called universal constant of gravitation and its value is found to be  $6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ . Equation (1) is known as the 'Universal law of gravitation'.

**Prof Ashwin M.**  
Dept. of Physics



**M  
O  
T  
H  
E  
R**



Mother you filled my days with rainbow lights,  
fairy tales and sweet dream nights,  
kiss to wipe away my tears,  
Gingerly ease my fears,  
you gave the gift of life to me,  
And then in love, you set me free,  
I thank you for your tender care,  
for deep warm hugs and being there,  
I hope that you think of me,  
A part of you, you shall always see,  
God made a wonderful mother,  
A mother who never grows old,  
He made her smile of sunshine,  
And he mould her heart of pure gold,  
In her eyes he placed bright shining stare,  
God made a wonderful mother,  
And gave that dear mother to me.

**Sayyed Fouziya B. Khalid**

F.Y.B.Sc. (PCM)

## आझादी के पहले, आझादी के बाद

लोग थे गरिब, सारे के सारे थे शरिफ,  
बस एक थी उनकी ख्वाईश रोज वे करते यही आजमाहिश,  
वे कहते भले जिंदगी जिए हम सारी,  
और रोटी खाए आधी,  
हे भगवान बस मिल जाए हमे आझादी,

अंग्रेजो ने दी थी, उन्हे बहोत तकलीफ,  
गुलामी करवाई और मँगवाई थी उनसे भीख  
पर सारे के सारे थे हिंदूस्थानी,  
ना था, कोई हिंदू, मुस्लीम, ईसाई या सीख

दिन जैसे ही निकलता वे करने लगते काम,  
उन दिनो ना था कोई वी.आय.पी., मंत्री या हिरो,  
सारे के सारे थे आदमी आम,  
भ्रष्टाचार, बिमारी और जनसंख्या का ना था कोई झमेला  
हर कोई था गुरु और हर कोई था चेला,

हर किसी कि बात को हर कोई था मानता,  
बस कमी थी आझादी की वैसे खुश थी जनता सारी  
आझादी के बाद.....

आझादी के बाद और बुरा हुआ हाल  
अंग्रेजो कि जगह नेता कर रहे वही कमाल,  
अब तो इनकम टैक्स भरने के बाद,  
कुछ इनकम ही नही बचता,  
बताओ मिलावट का खाना खा के किसको है पचता।

बिमारी, भ्रष्टाचारी, बेईमानी, बेरोजगारी कि शिकायत बढ़ गयी है देश में,  
चोर, डकैत, बलात्कारी घुमने लगे है, साधु के भेस में  
किसीको दो पल बाते करने को मिलता नही अब वक्त,  
डॉक्टर मरीज पे, नेताजी जनता पे,  
और गुरुजी शिष्य पे होने लगे सक्त  
विश्वास नाम कि अब तो टुटने लगी डोर,  
अब पड़ोसी देश तो छोड़ो, पड़ोसी के साथ भी अच्छे नही संबंध  
दारु के ठेके खुले रहने लगे दिन-रात  
और मंदिर रहने लगे बंद....

सड़को पे होने लगी अब दिन-दहाड़े हत्या  
किसान चिंता मुक्त होने के लिए, करने लगे आत्महत्या  
फायदे के सिवा व्यापार मे और वायदे के सिवा  
सरकार में अब कुछ नही है,  
झुठा टोकरी बेच के चला जाता  
और सच्चे का बोरा भी है बिकता

धरम के नाम पर बढ़ गये सब नही करता कोई देश कि बात  
बिगड़ने लगे लोग यहा के और बिगड़ने लगे हालात  
इस प्रदूषण भरी अबो-हवा में भला चैन कि सास कौन ले पाए,  
हम आझादी के पहले खुश थे या  
आझादी के बाद, इसका जवाब अब कौन बताए....???

**विक्रमसिंग राजपूत**

S.Y.B.Sc. (PM)



# Impacts in the Solar System

About 3.9 billion years ago, in the early days of the solar system bright comets and asteroids orbited the sun. These huge bodies bombarded the planets and caused craters on them. We can see many craters on the Moon, and which were once present on the earth. Many scientists believe that the impact of a comet or an asteroid on earth may have played some part in the extinction of the dinosaurs 65 million years ago. Impacts in the solar system caused great devastation, but it seems that they may have also made it possible for life to begin on earth. When comets from the cool outer space of the solar system struck the earth they released carbon, hydrogen, oxygen and nitrogen into the earth's atmosphere. These organic materials are essential to life forms. Life itself based on carbon, while hydrogen and oxygen make up water (H<sub>2</sub>O) without which plants and animals could not survive.

## DID YOU KNOW ?

Impacts on the earth have been washed away by erosion and the movement of the earth's crust. The Moon, however, still shows the scars of impacts that happened several billion years ago.

## IMPACTING STILL

Major impacts still happen today, but not usually on earth. In July 1994, comet shoemaker levy I collided with Jupiter and caused several brilliant explosions.

## IMPACTS ON EARTH

In this hypothesised scene, of comet hitting



the earth, a major earth quake soon followed and temperatures became as high as boiling water. A thick cloud of debris scattered over, bringing months of darkness, cold and sulfuric acid rain, Many species eventually extinguished.

## EARLY IMPACTS

Impacts in the early solar system were very common. When a huge body such as this collided with the earth, it may have formed the earth's moon.

**Shweta Y. Kumbhar**  
F.Y.B.Sc. (C)

# BEAUTIFUL SMILE

*A beautiful smile  
falls across your face,  
when you are happy  
or full of grace*

*A beautiful smile  
fills your eyes,  
when you're contented  
or surprised*

*A beautiful magic  
attends your soul,  
when you have spoken  
of love unfold.*



**Sayyed Fouziya Khalid**  
F.Y.B.Sc. (PCM)

## GIVING MASS TO ELEMENTARY PARTICLES!

When the microwave background radiations were encountered, scientist began to identify many new particles. This created confusion as to what are the basic elementary particles that make up the entire universe. Many of the identified particles were later found to be composed of certain basic particles which today are given by the standard model of quantum mechanics. So far the standard model holds 16 elementary particles (+1=Higgs boson).

Three Generations of Matter (Fermions)				
	I	II	III	
mass→	2.4 MeV	1.27 GeV	171.2 GeV	0
charge→	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	0
spin→	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
name→	<b>u</b> up	<b>c</b> charm	<b>t</b> top	<b>γ</b> photon
Quarks	4.8 MeV	104 MeV	4.2 GeV	0
	$-\frac{1}{3}$	$-\frac{1}{3}$	$-\frac{1}{3}$	0
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	<b>d</b> down	<b>s</b> strange	<b>b</b> bottom	<b>g</b> gluon
Leptons	<2.2 eV	<0.17 MeV	<15.5 MeV	91.2 GeV
	0	0	0	0
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	<b>ν<sub>e</sub></b> electron neutrino	<b>ν<sub>μ</sub></b> muon neutrino	<b>ν<sub>τ</sub></b> tau neutrino	<b>Z</b> weak force
Bosons (Forces)	0.511 MeV	105.7 MeV	1.777 GeV	80.4 GeV
	-1	-1	-1	$\pm 1$
	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
	<b>e</b> electron	<b>μ</b> muon	<b>τ</b> tau	<b>W</b> weak force

The standard model is divided into two parts: the fermions and the Bosons. In physics we have three statistics which give the distribution of particles in different energy states. These are the Maxwell Boltzmann statistics, Fermi Dirac Statistics and Bose Einstein statistics. The fermions are particles which obey Fermi Dirac Statistics and Bosons obey Bose Einstein Statistics. The Fermions are

further subdivided into Quarks and Leptons. These 16(+1) form the standard model as we know of it today (are there more? That's not known yet). The fermions form the matter particles while the Bosons are related to interaction due to forces. The photon corresponds to electromagnetic interactions; the Gluons correspond to Strong Nuclear forces, the W<sup>+</sup>, W<sup>-</sup>, Z bosons correspond to weak nuclear interactions. All the matter which we come across today is made up of the up quarks, the down quark and the electron (and force particles).

Now why did we look at all this? The answer is the search and confirmation of existence of a new boson the "Higgs Boson". Why is the Higgs so important? This new boson was theorized in 1964. It is named after one of the scientist of the team which gave this theory, Peter Higgs. As per the standard model-corresponding to every field (eg. Electromagnetic field) there is a force particle which is responsible for the interaction among the particles (charged particles respectively).

Higgs Boson corresponds to the Higgs Field and is responsible for the interaction of particles with the Higgs Field. Unlike other fields which require a source for their existence, the Higgs field permeates the entire universe without the existence of a source and this entirely gives the new quantum mechanical definition of vacuum. This field is responsible for giving mass to the elementary particles. So does this mean that we humans or a chair or anything else have masses due to Higgs field? Directly no! The Higgs field gives mass only to the elementary particles say quarks. We obtain our masses through a process called Quark

confinement. However the Higgs field does not interact with all elementary particles!

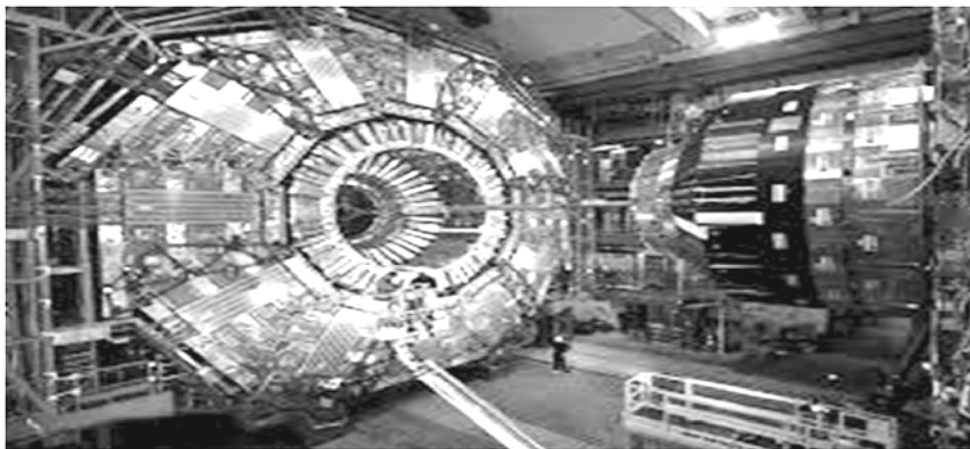
How did the Higgs field come into existence? After the big bang, the forces came into existence and the Universe was expanding very rapidly. Then came the elementary particle which, all initially moved at the speed of light. Then why, all the elementary particles don't move with the speed of light today? One billionth of a second after the big bang, Higgs particles came into existence and the occupied all the space in the universe forming what we call as the Higgs Field.

Then how do elementary particles get their masses due to the Higgs field? The answer is the Higgs Mechanism! The easiest way to understand Higgs Mechanism is as follows. Consider a class having fifty students enjoying party in a room. These students are occupying the space in room uniformly. Now suppose a very boring physics teacher enters the class and wants to go to the other side he will go through unnoticed. But if a film star enters the class and wants to go to the other side he can't do it as easily as the Teacher. The students seeing him will crowd around start talking to him and reduce his speed. More popular the star more is the time he requires to get through. This is a perfect analogy of understand how the Higgs field is responsible for giving mass to the

particles. The students represent the Higgs Boson particles spread uniformly in space and the teacher represents those particle which do not interact with the field and have no mass while the popular star represent those particles which interact with the field and the popularity stands for the intensity with which the particles interact with the field. When an elementary particle (which has mass as we know of it today) passes through the field the Higgs boson particles, crowd around the particles, speed of the particle reduces, resulting in the conversion of its energy to mass given by the formula  $E=MC^2$ . More massive the particle, more slowly it moves in the Higgs field. While a particle like photon which passes through field unnoticed, maintains its speed (i.e.  $C$ ) resulting in no conversion of its energy into mass. Thus works the Higgs Field. This theory is now confirmed by the existence of Higgs Boson found at the Large Hadron Collider experiment announced in 2012. If it would not have been found all the fundamental physics we developed over the past 1000 years so far would crumble and we would be in a huge disastrous situation. The confirmation was a huge task for all the physicist and the engineers who worked at the LHC . We must duly respect and marvel at their result and the experiment as well.

**Mr. Hrishikesh Tadwalkar**

M.Sc (Sem II)





## *Scientific Attitude In Life*

**M**any non science students detest science and always hold those pursuing science as different species, more like aliens. When a science person puts up an argument everyone says “I know you are from science ,no need to show it again and again” .But Science dominates our surroundings and when I say science I mean Social Sciences as well. The science of the society- which is equally important as natural sciences.

Now the important question “Why am I talking all this? “. (If this question comes to your mind it's really worthwhile ...but any way I'm going to tell you)As I have said earlier...Science rules our life. But, even as a Science student, there is something very crucial that we forget to understand and apply. Something very crucial that science teaches us or we develop while learning- The “**Scientific Attitude**”.

Scientific attitude is what makes a person a scientist in real senses. Everyone who just works long hours in labs without applying scientific attitude in his life, according to me is not a scientist. On the other hand people who have this scientific attitude are the real scientist whether they have science background or not.

What does scientific attitude mean? First of all if you really think of having scientific attitude...the first and foremost thing is “Do not believe in anyone or anything blindly”. This is the thing about life...do not believe anyone or anything blindly. Now what does scientific

attitude involves ? what is required to develop it? Simple...Both have the same answer. Scientific attitude involves...

- 1) Collecting Data: - When there is some situation in life or any problem affecting society...collect as much data about it as possible both supporting and against (Observation plays a key role in this.)
- 2) Analysis: - Analyse the data you have collected .Look for the Cause and effect relation. What caused such a situation? What was its effect? Who benefited from the effect?
- 3) Discuss:-Discuss the issue with genuine people who will neither be biased towards any side nor be too egoistic that they are not ready to think about it open mindedly .Even if you don't get such people you will always be able to get something out of discussion if you stick to the facts and the cause, effect and benefit relationship.
- 4) Reanalysis:-Again analyze the situation as per your pre analysis and discussion.
- 5) Conclude:-Come to a conclusion based on your reanalysis.
- 6) Update:-Keep yourself updated and be open to change your opinion if it's needed. Don't become egoistic nor be too weak to give up on your opinion.

..that's all.

Six steps to be a scientist in your life. Look pretty complicated but actually are Easy. Once



## विद्या प्रसारक मंडळ



### कार्यकारिणी मंडळ २०१३-२०१४

उभे (डावीकडून) : श्री.दि.गु.जोशी (सभासद), श्री.अनिरुद्ध जोशी (सभासद), डॉ.म.वि.बेडेकर (सभासद), डॉ.अ.ना.बापट (सभासद), सौ.अ.अ.बापट (सभासद)

बसलेले (डावीकडून): श्री.ज.ना.कयाळ (सहकार्यवाह), श्री.मा.य.गोखले (कोषाध्यक्ष), डॉ.वि.वा.बेडेकर (कार्याध्यक्ष), श्री.श्री.वि.करंदीकर (सभासद), श्री.अु.भा.जोशी (कार्यवाह).



प्राचार्या डॉ. (सौ.) एम.के.पेजावर



## Our Administration



**Dr. R. P. Athalye**

Vice-Principal  
Degree College



**Prof. H. B. Katkar**

Vice-Principal  
Junior College



**Prof. Pushpa Krishnan**

Supervisor  
Junior College



**Mr. N. S. Huddar**

Office Superintendent



**Mr. Sanjay D. Choudhari**

Sr. Clerk



## OUR TOPPERS



**Sumeet Belhekar**  
T. Y. B. Sc.  
(Statistics)



**Heena Shaikh**  
T. Y. B. Sc.  
(Botony)



**Umme Syed**  
T. Y. B. Sc.  
(Maths)



**Shilpa Singh**  
T. Y. B. Sc.  
(Zoology)



**Amit Bendre**  
T. Y. B. Sc.  
(Biotechnology)



**Ashwini Torkadi**  
T. Y. B. Sc.  
(Chemistry)



**Prinyanka Shinde**  
T. Y. B. Sc.  
(I.T.)



**Aamir Shaikh**  
T. Y. B. Sc.  
(Physics)



**Sonal Patil**  
T. Y. B. Sc.  
(Computer Science)



**Swati Bangar**  
M. Sc.  
(I.T.) II



**Sneha Velankar**  
S. Y. B. Sc.  
(I.T.)



**Arpita Mehendale**  
F. Y. B. Sc.



**Sarika Arkile**  
F. Y. B. Sc.  
(I.T.)



**Tejas Niphadle**  
S. Y. J. C.



**Ajay Jedhe**  
F. Y. J. C.



# Our Leaders



**Sweekar Ghangale**  
Secretary - Culture  
G.S.



**Mrudula Sawant**  
Secretary - Gymkhana



**Abhijeet Barse**  
Incharge Boys - NCC



**Prashant Raghatwan**  
Secretary - NSS



**Sayali Garud**  
Principal's Nominee  
T.Y.B.Sc.



**Arpita Mahendale**  
Principal's Nominee  
S.Y.B.Sc.



**Gaurang Tawde**  
Principal's Nominee  
F.Y.B.Sc.



**Mansi Lad**  
Lady Representative



**Vrushali Bamane**  
Lady Representative



**Sophiya Koli**  
Jt. Secretary - Culture



**Samruddhi Hema**  
Jt. Secretary - Culture



**Sanika Arkile**  
Representative - IT



**Nikhil Phadke**  
Secretary - Magazine

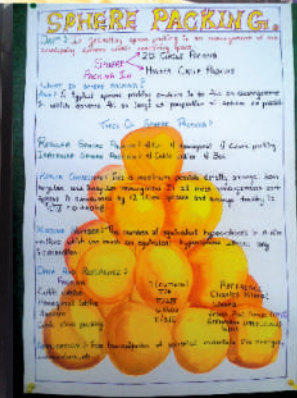
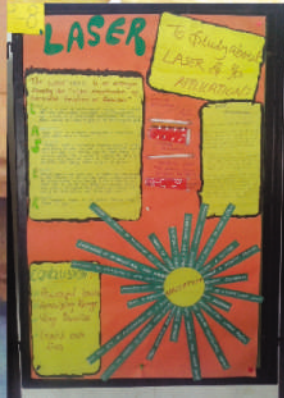


**Vishal Birhadi**  
Jt. Secretary - Magazine



**Jay Utekar**  
1st in S. Y. J. C.

**Electron Microscope  
lecture by Mr. Avadesh  
Yadav (Physics Club)**



**Physics  
Carnival  
(Physics Club)**





**Flowers - Nature**



**Kailas Mountain**



**Gushing Water**





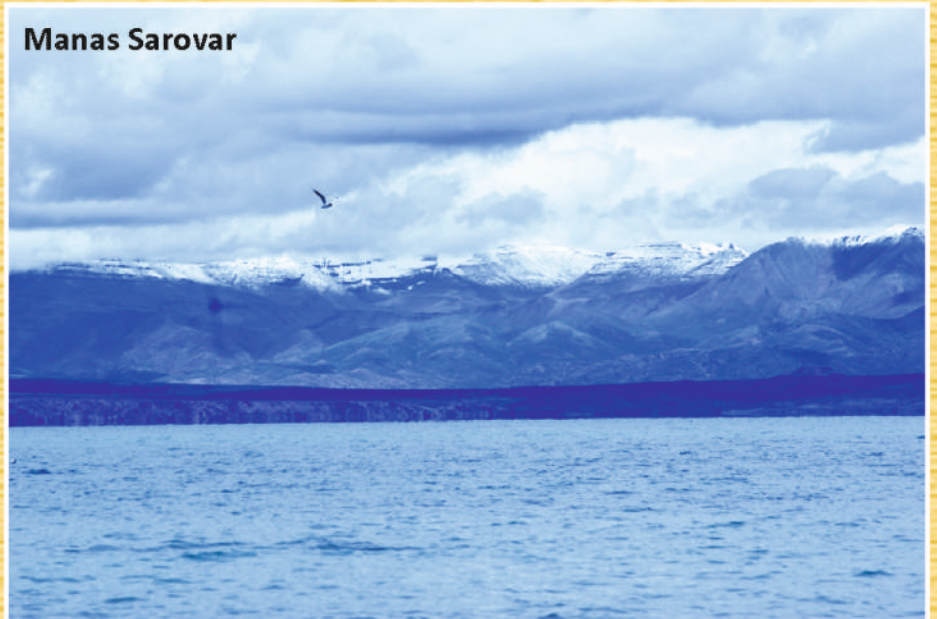
**Way to Manas**



**Photo Gallery**



**Manas Sarovar**



**Flowers & Insect**

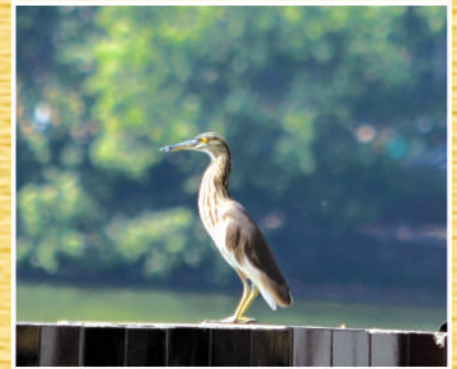




# Photo Gallery



Twilight



Bird, Crocodile & Flower



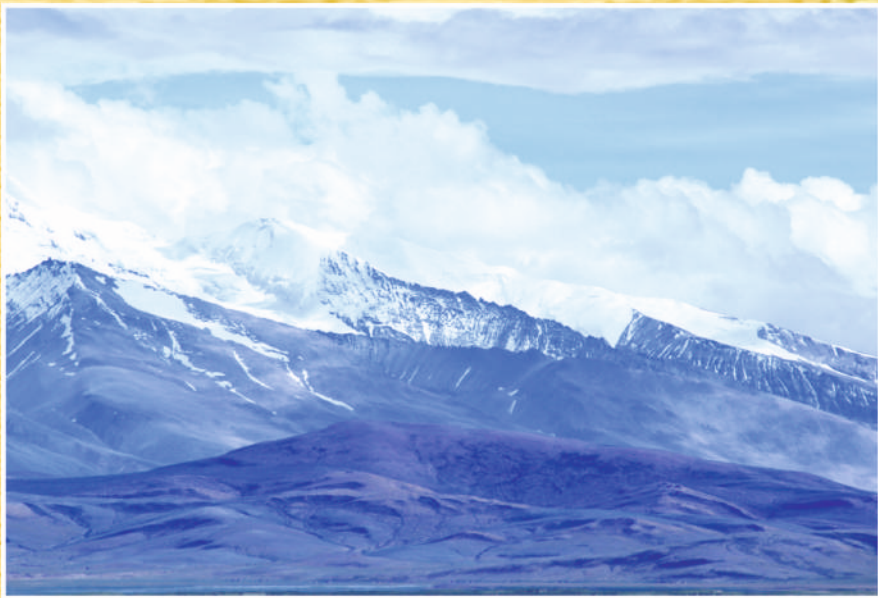
Grass Hopper



Manas from other side







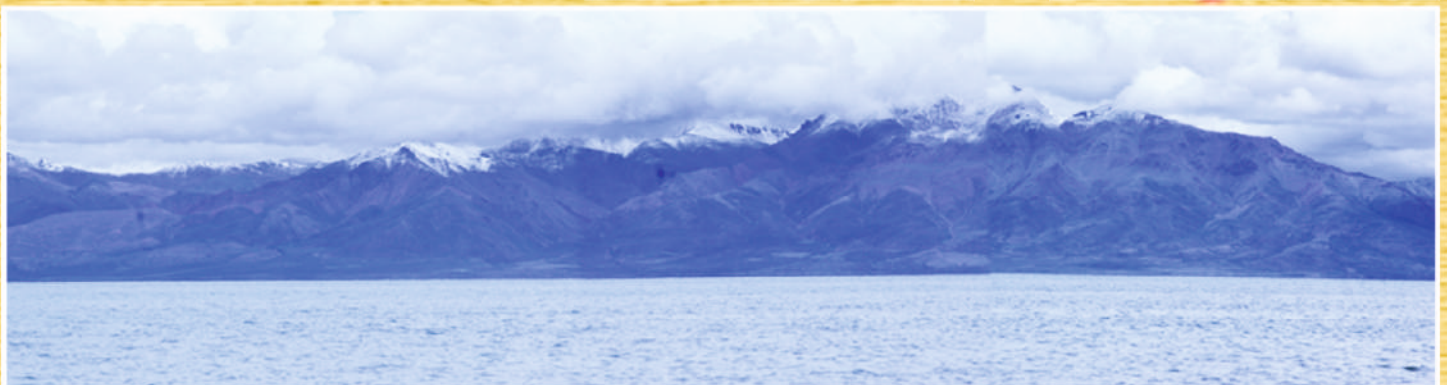
**Mountains with Ice Caps**



**Rhino**



**The Nature**





you start following this, it will become a child's play for you.

This Scientific attitude helps you to be in control of your life . The most important thing that science teaches us is "Scientific attitude." And for Science fellows the above steps resemble the way you perform an experiment.

So now let's all bring this attitude into our life and move towards a more stable life and society. Let's all become scientist in real sense. And be proud to be so.

*Hrishikesh Hemant Tadwalkar*

M.Sc. (Sem II) Physics



## प्रेम

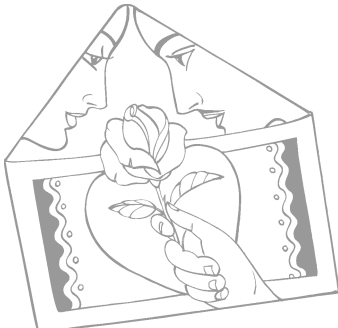
काय सांगु, कोठे सांगु,  
केव्हा सांगु, कधी सांगु,  
माझे मलाच कळत नाही  
माझे तुझ्यावर प्रेम आहे  
हे कोणाला कधी कळणार नाही

प्रेम असेल तर हो म्हणशील  
नसेल तर नाही म्हणशील  
पण नाही म्हणालीस अशी खात्रीच आहे.

तरीही एकदा विचार कर माझ्या भावनेचा  
नाही म्हणशील म्हणून काही खेद नाही  
जगण्या मरण्याच्या अंतरात आता  
काही भेद नाही

जरी नाही म्हणालीस तरी मी जसा हरवलेल्या  
पाखरासारखा तुझ्या आयुष्यात आलो तसाच निघून जाईन  
आणि.....आणि.....हो म्हणालीस  
तर!!

त्याच पाखरासारखा तुझ्या जीवनात  
प्रेमाचं घरटं बांधून राहीन !!!



पारस सुधीर सावंत  
F.Y.B.Sc.

## शेरो - शायरी

हर लब्ध में मतलब होता है ।  
हर मतलब में फर्क होता है ॥  
सब कहते हैं की हम हसते बहुत हैं ।  
लेकिन हसने वालों के दिल में ही दर्द होता है ॥

मंजिल इन्सान के हौसले आजमाती है ।  
सपनों के परदे आँखों से हटाती है ॥  
किसी भी बात से हिम्मत ना हारना ।  
क्यों कि ठोकर ही इन्सान को चलना, सिखाती है ॥

दोस्ती जिंदगी की कड़ी होती है ।  
बड़ी मुश्किल से ये इमारत खड़ी होती है ॥  
निभानेवालों की कमी है इस दुनिया में ।  
वरना दोस्ती तो हर रिश्तों से बड़ी होती है ॥

ख्वाईश ऐसी करो की आसमान तक जा सके ।  
दुआ ऐसी करो की खुदा को पा सके ॥  
यू तो जीने के लिए पल बहुत कम है ।  
जिओ ऐसे कि हर पल में जिंदगी पा सके ॥

श्वेता यादव  
S.Y.B.Sc. (PC)



# सर्वांसाठी योग

**योग** हा शब्द युज या

शब्दापासून झाला आहे. त्याचा अर्थ आहे जोडणे. शरीराला मनाशी जोडणे किंवा आत्म्याला परमात्म्याशी जोडणे. त्याचा दुसरा आध्यात्मिक भाग जरी सोडला तरी पहिला अर्थ आपल्याला जमला तरी तो आपल्यामध्ये मोठे परिवर्तन घडवून आणू शकतो. आता असे पहा की, आपले शरीर कुठलेही कार्य करीत असतांना (उदा.

अभ्यास करताना किंवा खेळतांना) मन जर अन्यत्र भरकटलेले असेल तर ते कार्य चांगले होईल का? नक्कीच नाही होणार. परंतु याउलट जर शरीर करीत असलेले कुठलेही कार्य आपण मन लावून करीत असलो तर ते नक्कीच चांगले होईल. म्हणजे, शरीर व मन जुळले तर आपल्याला कार्यकुशलता येईल आणि हेच योगामुळे साध्य होते म्हणून म्हणतात, “योगः कर्मसु कौशलम्।” अर्थात कार्यकुशलता म्हणजे योग होय. म्हणून हे लक्षात घ्या की क्षेत्र (Field of work) कुठलेही असो, जसे डॉक्टर, इंजिनियर, शिक्षक, खेळाडू, योग तुमची कार्यकुशलता नक्कीच वाढवेल. म्हणून प्रत्येकाने योग शिकून घेतला पाहिजे. आपल्या महाविद्यालयाने सर्वांसाठी योग उपलब्ध करून दिला आहे.



आता आपल्याला प्रश्न पडू शकतो की, शरीर व मन जोडण्याचे काम योगामुळे कसे होते? त्याचे असे आहे की, आपले मन हे श्वासाशी जोडलेले असते. मन अस्थिर वा क्षुब्ध असले तर श्वास जलद होतो व मन शांत असेल तर श्वास संथ होतो. म्हणून योगामध्ये आधी श्वासावर नियंत्रण आणले जाते व त्यातूनच मनावर नियंत्रण आणणे शक्य होते. दीर्घश्वासन, प्राणायाम, श्वास काही काळ रोखून धरणे (कुंभक) मन श्वासावर केंद्रित करून शरीराच्या हालचाली वावरणे अशा विविध प्रकारांमधून हळूहळू मन व शरीराचा संयोग होतो व आपल्याला

कुठल्याही कृतीची एकाग्रतेने करण्याची सवय होते. त्यामुळे आपली कार्यक्षमता व कार्यकुशलता वाढते. खरंच असं होतं का? याचं उत्तर होय असेच आहे कारण तसा हजारो वर्षांचा अनुभव आहे.

खरंतर योग म्हणजे फक्त श्वास-प्रश्वासाच्या क्रिया व आसने असं नाही तर ती एक जीवनशैली आहे ज्यामुळे शरीर, मन, आत्मा सुदृढ निरोगी बनून आपण जीवनाचा आनंद उत्साहाने घेऊ शकतो. योगाची आठ अंगे आहेत व त्यांच्यामध्ये वैयक्तिक व सामाजिक स्वास्थ्याचा परिपूर्णपणे विचार केलेला आहे. उदाहरणार्थ पहिली दोन अंगे आहेत. यम व नियम. पाच महत्त्वाचे ‘यम’ जे समाज स्वास्थ्य देणारे आहेत ते असे, अहिंसा, सत्य, अस्तेय (चोरी न

करणे), ब्रह्मचर्य (आपल्या जीवनसाथीशी एकनिष्ठ असणे हे ही एक प्रकारे ब्रह्मचर्यच होय) व अपरिग्रह (जरूरीपेक्षा अधिकाचा संचय न करणे) याच पांचही गोष्टींचे पालन ज्या समाजात होते त्या समाजात मारामाऱ्या, खून, दरोडे, बलात्कार, भ्रष्टाचार, लाच लुचपत या सर्वांना थाराही मिळणार नाही असे सामाजिक जीवन किती चांगले असेल? नाही कां?

वैयक्तिक स्वास्थ्याचेही पांच नियम आहेत. शौच (म्हणजे शरीराची, मनाची शुद्धी, चांगले वाचणे, चांगले बोलणे, चांगले वागणे, चांगले ऐकणे इत्यादी), संतोष (आनंदी रहाणे), तप (ध्येय प्राप्तीसाठी कष्ट करणे), स्वाध्याय (चांगल्या व्यक्तींच्या सहवासात रहाणे ज्यामुळे आपले जीवन आपोआप उन्नत होते व कुसंगतीमुळे ते अधः पाताकडे जाते) व ईश्वरप्रणिधान (सर्व कर्म ईश्वरार्पण करणे) कल्पना करा कि, यम नियमांचे पालन करणारी व्यक्ती किती चांगली असेल. तर मग उत्तम व्यक्तिमत्त्व विकासासाठी योग नक्कीच सहायभूत ठरेल असे नाही कां तुम्हाला वाटत?

योगाची पुढील दोन अंगे आहेत आसन व प्राणायाम. आसनांमुळे शरीर लवचिक व कणखर बनते तर प्राणायाम शरीर व मन दोहोंवर सुपरिणाम साधतो. दोन्हीमुळे मनाची एकाग्रता कशी वाढते हे आधी थोडक्यात वर्णिले आहेच.

प्रत्याहार हे योगाचे पाचवे अंग आहे. ह्यात आपल्या पंचेद्रियांना सुयोग्य आहार देणे जसे कानांनी चांगले ऐकणे, डोळ्यांनी चांगले पहाणे इत्यादी समाविष्ट आहे. ही पहिली पाच अंगे म्हणजे क्रियायोग होय. ज्यामुळे आपण संपूर्ण निरोगी बनतो व स्नेहमय शांत जीवन जगू लागतो. ह्यातूनच आपली पुढच्या तीन आध्यात्मिक अंगांकडे वाटचाल सुरु होते व आपण अधिकाधिक परमात्म्याकडे आकर्षित होऊ लागतो. ती अंगे आहेत धारता, ध्यान व समाधी.

संसारी माणसाने क्रियायोगाची पाच अंगे जरी शिकून घेतली व आचरण करण्याचा प्रयत्न केला तरी त्याची उन्नतीच होईल. मग तो कुठल्याही नोकरी वा व्यवसायात असला तरी त्याचे जीवन समाधानयुक्त होईल ते वेगळेच. विचार करा, आपल्या हजारो वर्षांची पार्श्वभूमी असलेल्या जीवनशैलीची, जी चे महत्त्व वादातीत आहे, आपण उपेक्षा तर करीत नाही?

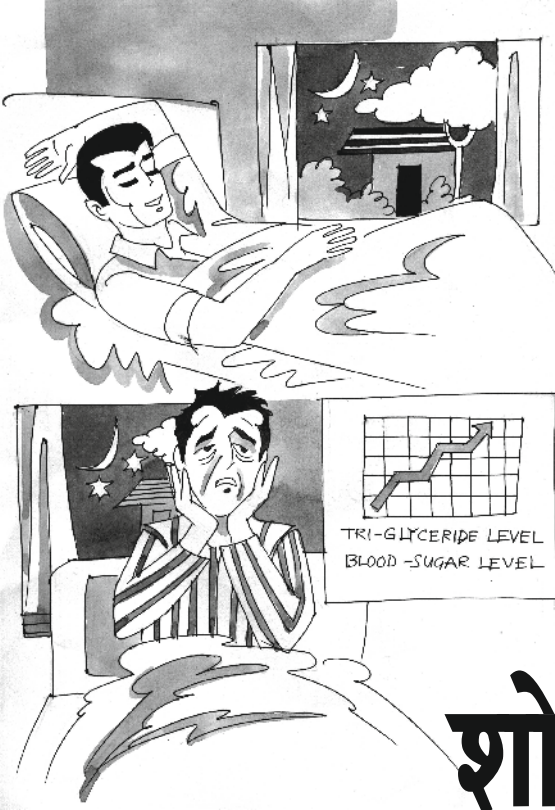
कित्येकदा असे ही होते की, लोकांना योग ही फक्त हिंदूंची मालमत्ता वाटते व ते त्यापासून दूर राहतात. परंतु तसे नाही. योगात हवा, पाणी व उष्णता (अग्नी) यांच्या सहाय्याने शरीर व मनाची शुद्धी केली जाते. प्रार्थनादेखील संस्कृतमध्ये असली तरी ती व्यापक आहे आणि आपण स्वतःला हवी ती प्रार्थना करू शकतोच की, कुठल्याही धर्माच्या व्यक्तीने शुद्ध मनाने केलेली प्रार्थना चांगला परिणाम करतेच! कुठल्याही भाषेत असो सदृच्छा ती सदृच्छांच ना?

म्हणूनच आग्रहाने सांगू इच्छितो की, योग हा सर्वांसाठी आहे. सर्वांचा व्यक्तिमत्त्व विकास व उत्कर्ष साधणारा आहे. सर्वांनी तो जरूर शिकावा व आचरणात आणावा. आपणही तो जरूर शिका.



डॉ. र.प्र. आठल्ये





# शोध आनंदी - जीवनाचा

**श**ब्द मनातील आरशाचे प्रतिबिंब रेखाटित असतात. 'आनंद' हा चित्तवेधक शब्द कुणाचे हृदय हेलावून सोडतो, तर कुणाचे मन हया शब्दाची खोली व उंची पाहून आनंदाने बेभान होते, तर कुणी जीवनाचा शोध-बोध घेण्यास सुरवात करतो.

पृथ्वीतलावर जे-जे आहे ते अस्थिर व क्षणभंगुर आहे. मनुष्यप्राण्याचे चित्त आणि वित्त हे ही चंचल आहे. मनुष्याच्या धकाधकीच्या जीवनात बालपण व तारुण्य हे शिक्षण घेण्यात व मुंगीप्रमाणे अविरत श्रम करून ध्येय गाठण्यातच निघून जाते. घडाळ्याच्या काट्यात व पगाराच्या आकड्यात जीवन बंदिस्त होते. जीवनाचे सारे अर्थच बदलतात. या सर्व ताणतणावाच्या व्यापात मनुष्य स्वतःसाठी कधी जगतो का? स्वतःची ओळख त्याला होते का?

मृगाकडेच 'कस्तुरी' असते, पण तो सुगंधाच्या शोधात इकडे-तिकडे धावत असतो अशी काहीशी अवस्था आपणा सर्वांची होते का? आपल्या जीवनाच्या महासागरात अमूल्य मोती लपलेले आहेत. पण उगाचच साचलेल्या डबक्यात आपण त्याचा शोध घेत असतो.

संपूर्ण आयुष्यात आपल्याकडे बऱ्यापैकी फुरसतीचे क्षण असतात. त्यांच्याकडे एक संधी म्हणून पहा. फुरसतीचा हा सोन्यासारखा वेळ स्वतःच्या आत्मज्ञानासाठी उपयोगी आणावा. आलेल्या संधीचा फायदा घेऊन ऊर्वरीत जीवन यशस्वी करणाराच खरा श्रेष्ठ मनुष्य असतो.

जीवनभर ज्ञान मिळविले तरी ज्ञान संपत नाही. ज्ञान सर्वांगीण सुखाचा मूलमंत्र आहे. निखळ ज्ञानातून निर्भय व विज्ञानवादी मनुष्य निर्माण होतो. ज्ञान व विज्ञानाची युती जीवनात सुखशांती घेऊन येते.

माणसाचा स्वभाव विचित्र आहे. आपले सुख इतरांना वाटताना हात आखडलेला असतो, पण दुःख 'राईचे पर्वताएवढे' करून सांगण्याकडे कल असतो.

उषःकालाचे स्वागत करण्यासाठी पक्षी मधुर स्वराने किलबिलाट करतात, फुलं उमलतात, सुर्य सोनेरी किरणांनी सृष्टीला उर्जा देतो. हया सर्वांना हे कोणी करायला सांगत नाही. निसर्गातील हे सर्व घटक आपल्याला काहींना काही देतच असतात. निसर्गाकडून जेवढे शिकावे तेवढे थोडच आहे. निसर्ग हा मोठा दानशूर आहे. चोरी करणारा चोर हा कधीही श्रीमंत होत नाही आणि दान देणारा दाता कधीही दरिद्री होत नाही.

जीवनात यशस्वी होणे म्हणजे काय? सर्व सुखसोयी जमीनजुमला, यांत्रिक सोयी यांचा उपभोग घेणे? एवढे मिळुनही जीवन दुःखमय झालं तर? म्हणून यशस्वी व आनंदी जीवनासाठी सम्यक मार्गाचा अवलंब करणे जास्त हितकारक. सम्यक मार्ग म्हणजे सम्यक दृष्टी, सम्यक वाचा, सम्यक वर्तन, सम्यक आजीविका, सम्यक व्यायाम, सम्यक संकल्प, सम्यक स्मृती व सम्यक समाधी. स्वतःच्या जीवनात सम्यक मानवी मुल्यांची जोपासना करण्यामागील उद्दिष्टांवर यश अवलंबून असतं. यशाची तीव्र इच्छा आणि आशावादी संतुलित व सम्यक मन हे यशस्वीपणाचे गमक आहे.

जीवन जगण्यासाठी असतं. आनंदमय असतं. आनंद आणि दुःख जीवनाचे अविभाज्य घटक आहेत हे सत्य स्वीकारून आनंदाने

जगण्यासाठी सम्यक मार्गाबरोबरच ध्येय, आशा, श्रम, संस्कार, अचुकता, नम्रता, उत्साह, मैत्री, संयम, विवेक यांची शिदोरी बरोबर असलीच पाहिजे. जेव्हा आपण स्वतःला ओळखतो, तेव्हा जी गोष्ट आपल्याला दुःख देते, तीच गोष्ट आपल्याला आनंदही देते असे लक्षात येते व स्वतःबरोबर इतरांच्या ही जीवनात आनंद निर्माण करते. रात्रीच्याच गर्भातून उषःकाल जन्मास येतो हे परम सत्य आहे.

भाकरीला भाकरपण येण्यासाठी स्वतःला आणि भाकरीला तव्याचे चटके सहन करावेच लागतात. शेवटी जीवनातील हे सत्य जर समजले तर जीवन आनंदाने जगता येईल.

संगीता मेश्राम, भौतिकशास्त्र विभाग  
Assistant Professor

## Amazing Mumbai

- ➡ Mumbai was called Bombay. But it has no bombs and it is a harbor not a bay.
- ➡ Churchgate has neither church nor a gate, but is railway station.
- ➡ There are no darkness in Andheri.
- ➡ Lalbaug is neither red nor has garden.
- ➡ No king ever stayed at king's circle. Nor did queen victoria stay at Victoria terminus.
- ➡ Lower Parel is at the same level as Parel.
- ➡ You cannot get coal at Kolsa Street.
- ➡ Lokhandwala Complex is not an iron and steel market but a glamorous complex.
- ➡ There is no marine or sailors at Marine lines.
- ➡ Teen Batty is a junction of roads and not three lamps.
- ➡ Breach candy is not a sweet meat market.
- ➡ Kala Chowky has no black police station.
- ➡ The hanging garden is not suspended.
- ➡ Mirchi galli does not sell Chillies.
- ➡ Figs do not grow at Anjirwadi.
- ➡ Safed Pool is not white but has dirtiest black water.
- ➡ Jackfruit does not grow at Fanaswadi.
- ➡ However IT IS TRUE THAT YOU GET ROBBED AT CHORBAZAR!!!!

**Neha V. Nandi**  
S.Y.B.Sc.





## Trees, Our Best Friends



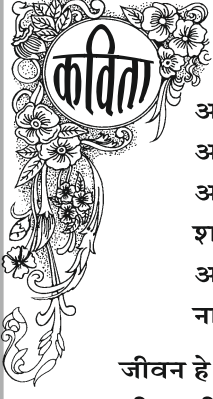
**W**e often remember the strange fascination we had for trees when we were very young. It was a real pleasure to climb up a tree, to perch one self on one of its branches & play all kinds of game. If it happened to be a fruit tree, the excitement was still more there. What fun it really was to have trees around us when we were kids. We looked up to them almost as our friends & made them active participants of games we played when we were children.

Tree, indeed, continue to be our friends, even though we may no longer climb up for fun or games. They are a part & parcel of our natural wealth. They add to the beauty & the very life of our creation. They make the lands-capes green, colourful & pleasant. It would become a desert when no life exists if there are no trees.

Trees play a vital role in soil conservation. Their roots hold the soil together. They also reduce the running off, of rain water & increase ground water. Trees, shrubs, grass & other plants capture the energy of the sun & with the help of water, carbon dioxide & chemicals turn that energy

into food for the rest of the living world. Ecology is the system of all elements of the natural world - plant, mineral, animal & human. They provide a natural habitat for the wild life & home for the bird life. They serve as the very basis of environmental harmony.

Trees are our friends, our best friends. We are not always aware of either their presence or their uses. On their was. We tend to take them for granted. We are often not very kind to them. But this world will cease to be beautiful if there are no trees.



## आई

आईसाठी काय लिहू  
आईसाठी कसे लिहू  
आईसाठी पुरतील एवढे  
शब्द नाहीत कोठे  
आई वरती लिहीण्याइतपत  
नाही माझे व्यक्तिमत्त्व मोठे

जीवन हे शेत, आई म्हणजे विहीर  
जीवन ही नौका तर आई म्हणजे तीर  
जीवन ही शाळा तर आई म्हणजे पाटी  
जीवन हे कामच काम तर आई म्हणजे सुट्टी

आई तू उन्हामधली सावली,  
आई तू पावसातली छत्री,  
आई तू थंडीतली शाल,  
आता यावीत दुःख खुशाल

आई म्हणजे मंदिराचा उंच कळस,  
आई म्हणजे अंगणातील पवित्र तुळस,  
आई म्हणजे भजनात गुणगुणावी अशी संतवाणी,  
आई म्हणजे वाळवंटात प्यावं असं थंडगार पाणी,  
आई म्हणजे आरतीत वाजवावी अशी लयबद्ध टाळी,  
आई म्हणजे वेदने नंतरची सर्वात पहिली आरोगी.



## ते आठ तास

ते आठ तास,  
कार्यालयीन आठ तास,  
मैत्रीणींचा सुखद सहवास,  
एक मोकळा श्वास  
असतो एक ध्यास,  
काम संपवण्याची,  
असते एक आस  
असतो कामाचा ताण  
मनातील मान अपमान  
निचरा होण्याचे  
एकमेव ठिकाण  
मोबदला कामाचा  
सुगंध घामाचा  
पैसा कष्टाचा  
हे समाधान  
मनातील गुंता  
घरातील फरफट  
आर्थिक तेढा  
विचारांचा वेढा  
स्वतःच्या हक्काची  
अशी आमची जागा  
जुळते सखी संगे  
मनाचा धागा.



## एका पहाटे

एका पहाटे आली  
एक परी स्वप्नात,  
हळूवारपणे घेऊन गेली  
मला प्रेमवनात,  
अचानक काजव्याप्रमाणे  
समोर ती आली,  
चकमक करुन हृदयात शिरून ती,  
अचानक निघून गेली,  
आता रोज पहाटे स्वप्नात  
मन माझे तिलाच शोधत असते,  
प्रत्येक स्वप्नात फक्त  
तिलाच बघत असते,  
पण आता ती का येत नाही  
वेड्या मनाला जवळ का घेत नाही?  
इतकी कशी कठोर ती झाली?  
एकट्या जीवाला,  
एकटीच ती सोडून गेली.

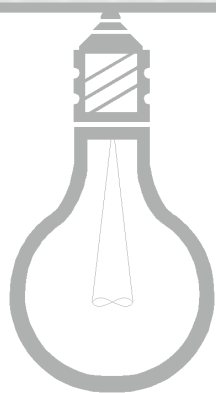


## प्रेम

प्रेम करा पण.....  
एकमेकांच्या मनाचा विचार करा,  
प्रेम करा पण.....  
जबाबदारीची जाणिव ठेवा,  
प्रेम करा पण.....  
मर्यादा सोडू नका,  
प्रेम करा पण.....  
दुसऱ्यांना दुःख देऊ नका,  
प्रेम करा पण.....  
एकमेकांची मने ओळखा,  
प्रेम करा पण.....  
सर्व गमावून बसू नका,  
प्रेम करा पण.....  
आई-वडिलांचा विचार करायला शिका.

ऋतीका एस. मंचेकर  
F.Y.B.Sc. (CS)





# Solid State Lighting (SSL)

About 20% of electricity is used for lighting all over the world. The most widely used sources of artificial light are incandescent and fluorescent lamps. Incandescent lamps rely on heat and hence are associated with large energy losses. Fluorescent lamps are associated with gas discharge. After the use of these lamps the gasses like mercury gets mixed into the air and spreads pollution in the environment.

Solid state lighting devices can be the substitution for the current sources, with impressive economic and environmental savings. Solid state lighting refers to a type of lighting that utilizes light emitting diodes, organic light emitting diodes or polymer light emitting diodes, as sources of illumination rather than electrical filament or gas. The term "Solid State" refers to the fact that light is emitted from a solid object, a block of semiconductor rather than, from a vacuum or gas tube. Its solid state nature provides for greater resistance to shock, vibration and wear, thereby increasing its life span significantly.

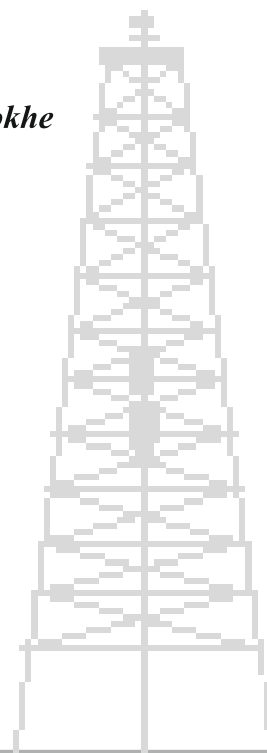
The luminescence efficiency of semiconductor-based white LEDs can be greatly improved by reducing the non

radiative recombination of electron-hole pairs in the p-n junctions and designing a new structure to enhance external quantum efficiency. Based on the physical principles, the luminous efficiency of white LEDs can approach 200 lm/W by the year of 2020 which will be far greater than of incandescent lamps and fluorescent lamps. There are different approaches which can be used for generating white light based on LEDs, but the industry has yet to decide the right approach.

The potential national energy saving will depend on how quickly and to what extent the developments in solid state light technology occurs. In order that the performance of SSL will be capable of satisfying general lighting requirements, more research must be done on developing alternative methods of preparing solid state lighting (SSL) devices.

**Prof. Mrs. U. B. Gokhe**

Dept. of Physics



# The king of Serpents

**T**he ophiophagus hannah (scientific name) commonly called as King Cobra is a snake full of beauty and obviously a complex specie to study.

This longest venomous snake of the world can grow upto 15 feet and the venom quantity in King Cobra is more than any other snake in the world. It can inject upto 7ml venom at a time. The king can be seen in different colours such as grey, black, dark olive green or yellowish-brown with horizontal white or yellowish bands on it. The colour combination is just mind blowing. If compared to other cobras, its hood is narrow in breadth and longer in length.

Sir Romulus Whitaker has proposed the world's first King Cobra Sanctuary in Agumbe Karnataka. He has spent his life in studying King Cobra and reptile conservation. A project on king Cobra was done and the team discovered many new things about the king. Taxonomists are still working on it. Episodes such as "Secrets of the King Cobra", "King Cobra and I" show the features of the King.

The diet of King Cobra consists of snakes including other King Cobras, and has a

special taste for Indian Rat Snake. It also eats Monitor lizard.

Snake lives in conditions of heavy rainfall and thick forests and estuarine mangrove swamps. It is found in tea estates in South India and Assam, in Western Ghats except Maharashtra, Uttar Pradesh (Terai region) and also in Bihar, Orissa, West Bengal and North East upto Arunachal Pradesh. It is also found in Bhutan, Nepal Bangladesh and all the way to Phillippines.

The status is rare and protected under schedule II of willlife Act, 1972. It needs conservation due to skin trade, Illegal transportation and Habitat loss.

Dr. Manjunath Kini (Singapore University) discovered protein 'Haditoxin' also called as 'Three finger toxin' in King Cobra. It can be used in preparation of drugs for diseases such as Alzaimar and Parkinsons.

The snake contains Nuerotozic Venom and affects the nuerotransmitters and Central Nervous System of humans. It belongs to family Elapidae and order squamata.

**Samrat Tambat**  
S.Y.B.Sc. (B.Z.)





Beautiful Quote by Abdul Kalam  
"I am not a handsome guy  
But I can give my "HAND to" SOME" one who  
needs help!"

A Fantastic sentence written on every Japanese  
bus stop  
"Only buses will stop here, not your time  
so keep walking towards your goal".

Chemistry at it's Peak.....  
Teacher : What happens when carbon monoxide  
react with 2 molecules of Iron?  
Student : Coffee  
Teacher : How ???  
Student :  $\text{CO} + 2 \text{Fe} = \text{COFFEE}$

एक गरीब सुबह जल्दी घर से पेट भरने के लिए निकलता है  
और एक अमीर पेट कम करने के लिये

ख्वाईश ऐसी करो की आसमा तक जा सको ।  
दुवा ऐसी करो की खुदा को पा सको ।।  
यु तो जीने के लिए पल बहुत कम है ।।  
जिओ ऐसे की हर पल मे जिंदगी पा सको ।।

एक हाथ में पेन, दुसरे में फोन, एक कान लेक्चर पर, दुसरा  
मोबाईल पर  
कौन बोला Student life is easy?  
Students are very busy.....

जब ५ सेकंद की मुस्कान से फोटो अच्छी आ सकती है  
तो हमेशा मुस्कुराने से जिंदगी अच्छी क्यों नहीं हो सकती  
So Keep Smiling

सांता : चिकन तो बहुत अच्छा बना है पर थोडा अजिब सा  
टेस्ट क्यों है ?  
बंता : बनते हुऐ मुर्गे की टांग जल गई थी तो मैंने  
SOFRAMYCIN लगा दिया.

Past is waste paper, present is News paper,  
Future is Question paper, so carefully read and  
write.....  
Otherwise life will become TISSUE paper.

Two simple lines, Don't make any close relation  
without full understanding & don't break any  
close relation with a small misunderstanding.

अपनी जिंदगी में हर किसीको एहमियत दो  
जो अच्छा होगा वो खुशी देगा,  
और जो बुरा होगा वो सबक देगा।

इन्सान अपनी मिठी जुबान से जाना जाता है, वरना अच्छी  
बातें तो दिवारों पर भी लिखी होती है।

रिश्ते चाहे जितने भी बुरे हो लेकिन कभी उन्हें तोड़ना मत  
क्योंकि पानी चाहे कितना भी गंदा हो, प्यास ना सही लेकिन  
आग तो बुझा देता है।

Great Alexander's last words :  
"Bury my body & keep my hand outside, so that  
the world knows, the man who won the world  
had nothing in hand.

Vigyaan Kehta Hai,"Zuban par lagi chot bahut  
jaldi theek hoti hai, par Gyaan kehta hai Zuban se  
lagi chot kabhi theek nahi hoti. It's True.

Santa : (Banta se) "Kya Kar rahe ho?"  
Banta : "badla le raha hoon  
Santa : "Kisse?"  
Banta : "Waqt se?"  
Waqt ne mujhe barbad kiya aur main waqt ko  
barbad kar raha hoon.

उस चिराग की तरहा जिओ जो बादशाह के महल मे भी  
उतनी ही रोशनी देता है,  
जितनी किसी गरीब की झोपडी में।

जिंदगी में २ लोगों का बहुत खयाल रखना  
एक वो जिसने तुम्हारी जीत के लिये बहुत कुछ हारा (पिता)  
दुसरा वो जिसने तुम्हारी हार को भी जीत कहा (माँ)

Short but meaningful sentences :  
"No poison can kill positive thinker".  
"No medicine can cure negative thinker"

जरूरत के मुताबीक जिंदगी जियो  
ख्वाईशों के मुताबीक नही  
क्यों कि जरूरत फकीर की भी पूरी हो जाती है  
और ख्वाईशे बादशाहों की अधुरी रह जाती है।

When "I" is replaced by "we" even illness  
becomes Wellness.

SK. Kashfiya I. Ah.  
S.Y.B.Sc.

## *Bid Good Bye to sadness... & be happy*

**W**hen we are in sorrow, we never understand whom to blame? ourselves, destiny, luck or the God ? We ponder upon after any event. But why don't we take the responsibility on ourselves? Whether the event is good or bad. We no more remain rational thinkers and go in to shell.

Some destroy their precious time by sitting in corners, repenting past, what will this kinds of act yield is never given a thought. Each moment one spent will never ever return, its gone for ever.

Just imagine-if we could control time, we would more be interested in past, a bit in future & nil in present. Why...??? Past is what we know & future is what we have no idea about, who knows where life would lead us. We aren't even aware of what's to unfold the next moment. What we have, we own is our present & we are least concerned about it. Enjoy every moment of what is now. Love everyone, without being selfish, with sense of humanity. Happiness is not a thing to be bartered, its something much more special to be shared & spreaded. Love your parents, they owe it. Let go what holds you back, or discourages you, may it be a thought or friend. Live your own life in your very own way .....!!

Be happy always.....!!

**Shaikh Rubina**  
S.Y.B.Sc. (PM)



### **बाप**

आईचे गुणगान गातात थोर,  
बापाला तर विचारतच नाही पोर.  
आईचा महिमा तर सर्वांनी गायला,  
बिचारा बाप मात्र उपेक्षितच राहिला.

आपल्याला शिकवण देणारी आई असते  
पण, आपल्याला अस्तित्व देतं कोण?  
आपल्याला चालायला आई शिकवते  
पण, आपल्याला पायावर उभे करत कोण?

लग्नात मुलीच्या गळ्यात पडून आई मनसोक्त रडते,  
बिचारा बाप मात्र रात्री, उशीत तोंड खुपसून रडतो.  
मुलगा पास झाल्यावर आई लाडाने जवळ घेते,  
पण, गुपचूप पेढ्यांचा बॉक्स आणणारा बापच असतो.

लहान मुल कितीही लहान असलं,  
तरी ते "आई गं" म्हणायला शिकतंच.  
परंतु कोणतेही मोठे संकट आल्यास,  
मुलांच्या तोंडातून "बाप रे!" निघतचं.

**संकलक**  
गौरी व्ही. आंबेकर  
F.Y.B.Sc. (CBZ)



## LONELINESS

**I**n today's society, many experience loneliness. It affects people of all ages and of all races, social strata and creeds. Have you ever been lonely in your life? Are you lonely now?

Actually all of us at one time or another have felt the need for companionship for some one to lend us an ear, and to understand us as a person. We need someone who is sensitive to our emotions.

Being alone, though, does not necessarily mean that we are lonely. A person can be alone for a long period of time, enjoying the things he or she does, without feeling at all lonely.

In contrast, there are those who cannot stand to be alone, who are said to be emotional. Loneliness is a powerful feeling, and is very painful. It is a feeling of emptiness.

Have You Ever Felt This Way?

What Causes Loneliness?

Problems, situations and conditions have diverse effect on people; perhaps you feel rejected by our peers, because of your physical appearance, race or religion. Changes in environment such as attending a new college, initiating a new job, or moving to a new neighborhood, city, or country, can bring a sense of loneliness because you have to leave your people behind with whom you have been close. Experiencing the loss of a parent or a marriage partner can result in loneliness possibly for many years. Also as we get older, our circle of friends and acquaintances changes, reduces or disappears.

Marriage does not ensure freedom from loneliness. Mutual misunderstanding or lack of compatibility may cause stress that can produce uncertainty and may even result in isolation for spouse and children.

Is It Possible To Cope With Loneliness?

Coping with loneliness is not easy.

What Can You Do About Loneliness?

- Keep in mind that your situation can be changed, that is not a permanent situation but a common experience shared by others.
- Do not be unreasonably demanding of yourself.
- Feel content about yourself in general.
- Develop good habits in eating and exercise and get adequate sleep.
- Use the time you spend along doing creative things and learning new skills.
- Be careful about not to judge people you meet on the basis of your past experiences.
- Value your friends and their unique qualities. work toward developing a good circle of Friends. Ask for ideas from older, experienced ones.
- Do something for others - give them a smile, utter kind words.
- Avoid fantasizing about movie or T.V. stars or internet or literary characters, imagining a relationship.
- Learn to talk to others and to be a good listener. Focus on other people and their interests. Show empathy.
- Acknowledge that you feel lonely and talk to a mature friend. Some one you trust. Don't suffer in silence.
- Avoid drinking too much, or do not drink at all, Alcohol does not drown your problems with time they float to the surface again.
- Live and let others live.
- Avoid pride. Forgive those who hurt you and make amends. Be willing to let down your defenses.

So you too can cope with loneliness. Whether you are young or older, single or married, a child with parents or an orphan and whether you have lost loved ones or are experiencing some other kind of loneliness, there are ways to cope with your feelings.

Many things can be done to combat loneliness. But will the day ever come when loneliness is a thing of the past?

So let's work on it.....

**Vaibhav N. Phatarpekar**

F.Y.B.Sc. (Biotech)

## My Best Friend

I never gift him anything,  
Yet he never leaves me alone,  
Each and every moment I try to avoid him,  
Yet he tries to relax me when I am sad & frown

Never can the world see him with me  
When I feel extremely glad  
Yet none other than him tries to share my feelings  
When I feel really very sad

I feel very embarrassed by myself,  
When he says he has come for me,  
Because some thoughts can never be expressed by words  
But can silently be expressed when I set him free

All the world tried to avoid me every where,  
When they see that my friend has come with me  
They leave us all alone in the crowd,  
And it is only then that I realise his importance for me

I do not know why I always keep cursing him,  
Though he expresses me genuinely all the time  
Never does he say "No" when I call him,  
And always for me keeps his time free

Any moment in my life, I may really need him  
But hate to take him anywhere I go  
But he knows I will need him when the world leaves me  
alone sometime  
And he must be there to understand me that time

He does not have any heart to think with emotions  
Neither has any brain to show how wise he is  
Never he becomes jealous when I am happy and successful  
His appearance is clear and his sensation is very cool

I always trap him in the cage of my eyes  
And take good care that he never tries to escape through it  
Because I hate him yet need him  
And thus, hold him long and hold him very tight

When the world is with me, he keeps away  
But when others ignore me, he seems very near  
He makes me sad and makes me glad  
He lives in my eyes and the world calls him "TEAR".

एका मुलीची हत्या झाली  
तर  
जगातील इतकी नाती  
नष्ट होतात



आई  
बहिण  
वहीनी  
काकी  
मामी  
आत्या  
मैत्रीण  
पुतणी  
भाची  
शिक्षिका  
पत्नी  
आजी  
पणजी

SAVE GIRL .....  
SAVE RELATION.....!

*Vaibhav N. Phatarpekar*  
F.Y.B.Sc. (Biotech)



## जगावे कसे ?

**भ**गवद्गीता जरी स्वतंत्रपणे प्रकाशित व वाचली जात असली तरी मूलतः ती संस्कृत महाकाव्य 'महाभारत' यात सापडते. महाभारतात सध्याच्या कलियुगापर्यंत घडलेल्या घटनांचे वर्णन दिले आहे. या युगाच्या आरंभी सुमारे ५००० वर्षांपूर्वी, भगवान श्रीकृष्णांनी आपला भक्त व मित्र अर्जुन, याला भगवद्गीता सांगितली. त्यांच्यातील संवाद, जो मानवी इतिहासातील सर्वात महान तत्वज्ञान विषयक व धर्मविषयक संवादांपैकी एक आहे हा एका युद्धापूर्वी घडला. हे यादवी महायुद्ध धृतराष्ट्राचे शंभर पुत्र व त्यांचे चुलत बंधू, पांडव यांच्यात घडले.



गीता गीता वाचे जे म्हणती ।  
नाही पुनरावृत्ती तयां नरा ।।  
नित्य नेमे वाचे वदता अक्षरे ।  
भवसिंधु तरे अर्धक्षणी ।।  
एका जनार्दनी जयाचा नेम ।  
तया पुरुषोत्तम न विसंबे ।।

गीता आपल्या सर्वांना अब्जाधीश व्हायची शिकवण देत नाही. गीता म्हणजे मनाच्या शक्तीचा विकास करण्याचा उपयुक्त उपाय आहे. गीता शिकविते की, जीवनाच्या प्रत्येक काना कोपऱ्यातून व्यक्तिमत्त्वाची चमक दिसायला पाहिजे. कौशल्याचा विकास (एक्सलन्स) या बाबींवर गीतेचा भर आहे. भगवान श्रीकृष्ण हे संपूर्ण व्यक्तिमत्त्वाचे खरे प्रतिक आहेत, हे पूर्णताच आपण सर्वांना अभीष्ट असायला पाहिजे. भगवान श्रीकृष्ण भक्त वत्सल आहेत, भावनाशील आहेत, योद्धे आहेत, ज्ञानवंत आहेत, तत्वज्ञ आहेत, संगीतज्ञ आहेत, राजकारणाच्या कूटनीतीचे ज्ञाते आहेत व व्यवहार कुशल आहेत. ह्या सर्व वैशिष्ट्यांचे एकीकरण त्यांच्या ठिकाणी झाले आहे. म्हणूनच ते पूर्णत्वाचे प्रतिक आहे.

जगातील समस्त भौतिक क्रिया भौतिक प्रकृतीच्या तीन गुणांच्या अधिपत्याखाली घडून येतात. जरी प्रकृतीचे हे तीन गुण भगवंताकडून आले आहे, तरी परम भगवान श्रीकृष्ण त्यांच्या नियंत्रणाखाली नाहीत. भौतिक देहरूपी रथामध्ये जीव हा स्वार आहे आणि बुद्धी त्यांची सारथी आहे. मन हे लगाम आहे आणि इंद्रिये घोडे आहेत याप्रमाणे जीव हा मन आणि इंद्रियांच्या सहवासात सुख किंवा दुःख उपभोगतो.

भौतिक संसाररूपी वृक्ष हा अध्यात्मिक संसाररूपी खऱ्या वृक्षाचे प्रतिबिंब मात्र आहे. ह्या भौतिक संसाररूपी वृक्षात आसक्त असणाऱ्या माणसाला मोक्ष मिळत नाही. परंतु ज्या मनुष्याला अध्यात्मिक संसाररूपी वृक्षाची जाण असते. तो आत्मोन्नती करू शकतो. भगवान श्रीकृष्ण प्रत्येकाच्या हृदयात

स्थित आहेत आणि त्यांच्यापासूनच स्मृती, ज्ञान व विस्मृती होतात. सर्व जाणण्यायोग्य व वेदांताचा संकलक आणि ज्ञानही भगवान श्रीकृष्णच आहे.

त्वमेव माता च पिता त्वमेव,  
त्वमेव बंधुश्च सखा त्वमेव ।  
त्वमेव विद्या द्रविणं त्वमेव,  
त्वमेव सर्वमम देव देव ।।

मनुष्यमात्र कर्मांनी बांधलेला आहे. अखेर पर्यंत त्याला अविश्रांतपणे कार्यरत व्हावे लागते, कर्म लहानमोठी वेगळी असतात. कर्म केल्याशिवाय मनुष्यास गत्यंतर नाही. या कलियुगामध्ये जे वास्तविक बुद्धीमान लोक आहेत ते पार्षदांसहित अवतारित होणाऱ्या भगवंताचे संकीर्तन, यज्ञ करून पुजन करतील, असे तात्पर्य निघते आणि भौतिक जगामध्ये ज्याप्रमाणे मनुष्य जुन्या वस्त्रांचा त्याग करून नवीन वस्त्रे धारण करतो, त्याचप्रमाणे आत्माही जुन्या आणि निरुपयोगी शरीराचा त्याग करून नवीन भौतिक शरीर धारण करतो. जे अत्यंत मुख्य आणि दुष्ट आहेत, नराधम आहेत, ज्यांचे ज्ञान मायेमध्ये नष्ट झाले आहे आणि जे असुरांची नास्तिक प्रवृत्ती धारण करतात ते भगवान श्रीकृष्णाला शरण येत नाहीत. परंतु चार प्रकारचे पुण्यात्मे भगवान श्रीकृष्णाची भक्ती करत असतात. आर्त, जिज्ञासू, अर्थार्थी आणि ज्ञानी ज्या योगीजनांनी योगाभ्यासात प्रगती केली आहे ते देहत्याग करण्याकरिता इष्ट स्थळ आणि काळाची व्यवस्था करू शकतात. परंतु या गोष्टी इतरांच्या स्वाधीन नसतात.

आपण सर्वजण विविध उपाधींच्या मागे लागलो आहोत. कुणाला साहेब बनायले आहे, कुणाला मालक बनायचे आहे, कुणाला अध्यक्ष तर कुणाला श्रीमंत तर कुणाला राजा तर कुणाला काय बनण्याची इच्छा असते. जोपर्यंत आपण या उपाधींवर आसक्त असतो तोपर्यंत आपण या शरीरावर आसक्त असतोच कारण या उपाधी फक्त शारिरिक स्तरावरच लागू पडतात. पण आपण म्हणजे हे शरीर नाही हे जाणून घेणे ही सत्संगती आहे पण भगवद्गीतेच्या आचरणाने आपण यातून विरक्त झालो पाहिजे जर आपण भगवद्भक्तीमध्ये आसक्त झालो नाही तर आपण भौतिक प्रकृतीच्या गुणांपासून अनासक्त राहूच शकत नाही.

एखाद्या लहान बाळाला आईचे किंवा वडिलांचे महत्त्व ते स्वतः मोठेपणी त्या जागी विराजमान झाल्यावर समजते. तसेच भगवद्गीता बघून किंवा तिचा अर्थ वाचून समजत नाही ती स्वतः वाचून आचरणात आली पाहिजे. माझ्या लाडक्या मित्र मैत्रिणींना भगवद्गीतेची ओळख व्हावी म्हणून हा छोटासा लेखप्रपंच.

सारंग दिनेश कुलकर्णी  
F.Y.B.Sc. (PCM)



## UNMANNED AVIATION AND HELICOPTER SCENARIO: FUTURE PROSPECTS

The year 1903 witnessed the first powered flight; a short hop of just 12 seconds on the 17<sup>th</sup> of December at Kittyhawk, by Orville and Wilbur Wright. Aircraft have come a long way since then and even the Wright brothers would marvel at today's high-tech airplanes made of special composite materials that are far removed from the wood, cloth and fabric flying machines of just 110 years ago. Early attempts of 'flights without pilots' can be traced back to 1915-16, however it was the 1960s that saw active research on flying pilotless aerial vehicles, with the basic aim of safeguarding the life of the pilot in case the plane was destroyed by hostile enemy fire during the military mission.

This research successfully culminated in the unmanned aerial vehicles (UAVs), more popularly known as drones and currently such unmanned craft with a range of shapes, sizes, characteristics and configurations are used by over 50 countries, many of which have the capability to design and manufacture their own UAVs. The pilotless crafts gave field commanders in battle situations capabilities to see 'over and beyond the hill'. Such pilotless drones today fall in 6 major functional categories, although multirole aerial platforms are becoming increasingly popular. They have an advantage of remaining airborne for several hours to days at a stretch; their 'loitering capability' over enemy installations is noteworthy, virtually flying

undetected, controlled remotely via satellites by the mission specialist stationed thousands of kilometers away, probably in some other continent. Pre-programmed autonomous computer - controlled drones and combinations of autonomous and manual remote controlled operations are also fast gaining popularity.

Apart from the much publicized roles as aerial surveillance and killer platforms, drones are also used in archaeology, commercial surveillance, conservation activities, counter terrorism operations, detection of forest fires, domestic policing, exploration of oil, gas and minerals, filming of movies, firefighting, maritime patrols, reconnaissance and strike, remote sensing, search and rescue, security missions, scientific research, target practice, transportation of life saving medicines in inaccessible terrains, and in war zones for several missions. There are plans for using them for air to air combat, combat search and rescue, mid air refueling and several other closely guarded missions, research and trials for which are progressing. Many companies are currently involved in UAV research and development. UAVs together with their ground control stations and data links constitute UAS or unmanned aerial systems. Their advantages over manned crafts are their cost effectiveness and zero risk to life of the pilot. Today such 'intelligent' drones are



deployed for missions that are classified as too dull, dirty or dangerous to manned airplanes.

The drone follows its pre-programmed flight path, operating anywhere between 10000 to 40000 feet altitude or even more, 'loiters' over the designated area if required, identifies the chosen target which is verified by the mission control which then authorizes the UAV to launch the attack. The reaction time to undo the 'attack' order, which becomes necessary if innocents or children are sighted in the 'kill' area, is just a few seconds, leaving almost no margin for error. Mission accomplished the UAV flies back via its predetermined path, relaying real time intelligence all through its remaining airborne. Latest technologies and characteristic shapes are helping UAVs remain undetected by the enemy. In rare cases of detection and the enemy initiates attempts to shoot it down, modern UAVs are endowed with artificial intelligence to self evade such attacks without help or input from the controller. Their nature of assignments required UAVs to remain slow or, at the most, sub-sonic.

Taking a giant technological leap, in the last six months, the US tested the world's first unmanned jet fighter, that too from the flight deck of an aircraft carrier. This was no small feat because landing on a moving aircraft carrier is considered the most difficult of flying operations by naval pilots. The aircraft approaching the carrier at extreme speed has to touchdown and land safely on a very short deck which also keeps on moving continuously i.e. the aircraft carrier is also moving, sailing at considerable speed; and this accompanied by turbulence of sea which has

an influence on the rolling and pitching of the carrier, and strong winds over the high seas, demands immense skill, concentration, mental calculations and precision for carrier landing. The pilotless, new, Northrop Grumman X-47B UCAS (unmanned combat air system), matching the size of a current large fighter jet, opened new chapters in drone flights by successful launch from flight deck, carrying out manoeuvres at high speeds at 12 km altitude over high sea, landing at ground station, takeoff from airbase and finally the acid test; approaching for touchdown at 1100 km/h and achieving a picture perfect landing on the carrier deck; all performed with the help of its built in computer programme. The US plans to induct such fully autonomous unmanned fighter aircraft, flying by pre-programmed flight plans or more complex and dynamic automation systems, on its aircraft carriers by 2020. They are expected to fly alongside and supplement manned fighters or undertake independent missions. There is an unconfirmed talk that the joint strike fighter currently being developed for replacing the present and next generation fighter aircraft, would be the last of the manned fighter jets, after which the field would be open to unmanned jets; a frightening prospect indeed.

An unusual flight worth mention was the underwater launch of an UAS from a submarine operating deep under the ocean. The XFC, an unmanned aircraft rose from the depths of the ocean after launch from the submerged submarine, followed its predetermined flight path, carrying out surveillance and reconnaissance and providing intelligence inputs

critical for mission to the submarine.

It may sound absurd but, as speed records reach new levels, the human pilot becomes the limiting factor, restricting performance of the flying machine which is designed to achieve much more. An interesting development was the retrofitting of retired Lockheed Martin F-16 fighter planes, by Boeing, with special gear enabling them to fly without pilots. The jet designated as QF-16, was recently flown with 'no one inside the cockpit' was tested to the very limits a flying machine can be put through. Controlled from the ground, the fighter, at speed of Mach 1.47 flawlessly performed complicated manoeuvres at altitudes of 40000 feet; was put to test at 7G of acceleration, culminating its flight in a smooth and perfect landing. The controllers are confident of accelerations of 9G, something currently impossible with manned flights. The QF-16 are scheduled to be used as targets with realistic capabilities for live fire exercises; an emotional issue for pilots who have flown them. Activists have warned against temptations to use them as drones. This concept is however not new as F-4 Phantom jets have been similarly modified earlier.

Great Britain also unveiled its unmanned combat air system demonstrator codenamed Taranis; one of the largest and fastest UAV in existence, an almost completely autonomous supersonic stealth bomber with intercontinental range; projected to supplement the British bomber fleet. The ultimate aim of modern UASs is to replace the current fighter planes and drones. The UNHRC has however called for a world-wide

freeze on the use of drones till proper rules for their usage are framed.

Large planes, remotely controlled from the ground, could soon become a reality too. The British aerospace giant BAE successfully conducted such a flight test using a 16 seater passenger jet. The 500 miles flight controlled by an operator from the ground opens new avenues in civilian aviation. As the flight path passed over populated areas, two pilots were asked to remain onboard, just in case required to take over manually; the need never arose.

Helicopters have always been associated with excessive and deafening noise and vibrations generated by their rotors, making travel uncomfortable. Their extreme noise is the sum result of several sources comprising noises originating from blade-vortex interaction, broadband, engine, high-speed impulsion, loading noise, rotor and tail rotor, thickness and transmission. Several methods are in vogue to introduce stealth and quietening features in helicopters, which considerably reduce noise levels.

A two-seater prototype of volocopter, advertized as the world's first green helicopter which is completely emission free, noiseless and environment friendly was recently tested in Germany. It sports 18 electrically driven rotors for propulsion instead of a combustion engine; the noise as well as vibrations being negligible the volocopter is being looked upon as a future solution for incorporating green technology in noisy helicopters.

***Capt. (Dr.) Moses Kolet***



## STUDENTS' COUNCIL 2013-2014

- |                                    |                              |
|------------------------------------|------------------------------|
| 1. Chairman                        | Prin. Dr. Mrs. M. K. Pejaver |
| 2. Vice-Principal (Degree College) | Dr. R. P. Athalye            |
| 3. Vice-Principal (Junior College) | Mr. H. B. Katkar             |
| 4. N.C.C. Officer (Boys)           | Dr. M. J. Kolet              |
| 5. Co-ordinator - Gymkhana         | Mr. P. G. Bamane             |
| 6. N.S.S. Programme Officer        | Dr. K. M. Pariya             |
| 7. Co-ordinator - Cultural         | Mr. P. S. Mali               |

### SPECIAL INVITEES

- |                                |                      |
|--------------------------------|----------------------|
| 8. Supervisor (Junior College) | Mrs. Pushpa Krishnan |
| 9. Magazine Co-ordinator       | Mr. S. G. Bapat      |
| 10. Office Superintendent      | Mr. N. S. Huddar     |

### STUDENTS' REPRESENTATIVES

- |                                  |  |
|----------------------------------|--|
| 11. Cultural Secretary           | Mr. Sweekar Ghangale T.Y.B.Sc. (IT)  |
| 12. Students Secretary (General) |  |
| 13. Secretary - Gymkhana         | Ms. Mrudula Vijaykumar Sawant -2012420362 -<br>S.Y.B.Sc. Microbiology (OPEN) |
| 14. In Charge Boys - NCC         | Mr. Abhijeet N. Barse - S.Y.J.C. (M.S.) (OPEN)                               |
| 15. Secretary - NSS              | Mr. Prashant Raghatwan - S.Y.B.Sc. (CZ) (ST)                                 |

### PRINCIPAL'S NOMINEE

- |                         |  |
|-------------------------|--|
| 16. T.Y.B.Sc.           | Ms. Sayali Anil Garud (Chemistry) 2011420122 |
| 17. S.Y.B.Sc.           | Ms. Arpita P. Mehendale - 2012420375         |
| 18. F.Y.B.Sc.           | Mr. Gaurang S. Tawade (PCM) 2013420125       |
| 19. Lady Representative | Ms. Vrushali M. Bamane (SC) 2011420404       |
| 20. Lady Representative | Ms. Manasi G. Lad (OBC) 2011420209           |

### SPECIAL INVITEES

- |                                 |   |
|---------------------------------|---|
| 21. Secretary - Magazine        | Mr. Nikhil K. Phadke - 2011420220<br>T.Y.B.Sc. Mathematics                |
| 22. Jt. Secretary - Cultural    | Ms. Sophiya Koli S.Y.B.Sc. (Biotech)<br>Ms. Samruddhi Hema T.Y.B.Sc. (IT) |
| 23. 1 <sup>st</sup> in S.Y.J.C. | Mr. Jay Utekar 378 - S.Y.J.C.<br>(Biotechnology)(OPEN)                    |
| 24. Representative - IT         | Ms. Sarika Arkile - 2012430033<br>S.Y.B.Sc. (IT) (OPEN)                   |

**JUNIOR COLLEGE*****H.S.C. Result for the academic year 2012-2013***

No. of students appeared (Fresh)	: 466
Fresh + Private + Repeaters	: 466 + 05 + 33 = 504
No. of students cleared with First class with Distinction	: 64
No. of students cleared with First class	: 172
No. of students cleared with Second class	: 187
No. of students cleared with Pass class	: 10
No. of students Failed Fresh + Private + Repeaters	: 33 + 3 + 21
Total No. of withheld Result	: NIL
Total No. of Candidate Passed Fresh + Private + Repeaters	: 433 + 2 + 12
Percentage of Result (Fresh)	: 92.91 %

**RANK HOLDERS**

RANK	NAME OF THE STUDENT	MARKS	PERCENTAGE
1.	Mr. Niphadkar Tejas Sudhir Swapna	549	91.50 %
2.	Mr. Sahu Amit Ramkrishna Archana	548	91.33 %
3.	Mr. Nabar Priyaj Nitin Neha	539	89.83 %

**FIRST IN SUBJECT**

Sr.No.	Subject	Name of the Student	Marks out of 100
1.	English	Ms. Wakankar Prachi Shrikant Bharati	91
2.	Marathi	Mr. Risbud Aniket Sudhir Manisha	90
3.	Hindi	Ms. Dighe Poonam Shankar Mandakini Ms. Gole Poonam Sharadchandra Mangala	88 88
4.	Sanskrit	Ms. More Aditi Nivasrao Samita	90
5.	Maths	Mr. Kesarwani Rohit Rakesh Gudiyadevi	99
6.	Physics	Ms. Ray Pearl Partha Sarathi Purnima Mr. Sahu Amrit Ramkrishna Archana	98 98
7.	Chemistry	Ms. Ray Pearl Partha Sarathi Purnima Ms. Kendre Vaidhehi Vilas Snehal	90 90
8.	Biology	Ms. Vobbilisetty Deepti Ravi Sudha	95
9.	Comp.Sci.	Mr. Niphadkar Tejas Sudhir Swapna	183/200



## *Annual results of the academic year 2012 - 2013*

### **T.Y.B.Sc.**

### *Without Ex-Student*

### *T. Y. B. Sc. Annual results of the academic year*

Total Appeared	254
Total Passed	146
Percentage	57.48%

### **First Three in College**

SUBJECT	NAME OF THE STUDENT	MARKS obtained	PERCENTAGE
Statistics	MR. BELHEKAR SUMEET ANIL	735	91.88 %
Statistics	MS. PARANJAPE SWARADA SUNIL	723	90.38 %
Statistics	MS. SINGH SWARNA RANVIR	709	88.63 %

### **Subject wise result : Without Ex-Student**

Subject/Class	Chemistry	Botany	Zoology	Biotech	Microbio	Physics	Maths	Stats	Comp.Sci.	Total
1 <sup>st</sup> Class	11	7	7	6	2	3	4	8	9	57
2 <sup>nd</sup> Class	19	6	10	11	11	12	4	6	10	89
Pass Class	-	-	-	-	-	-	-	-	-	0
Total	30	13	17	17	13	15	8	14	19	146
Total Appeared	68	16	21	22	21	35	24	23	24	254
Percentage	44.77%	81.25%	80.96%	77.27%	61.90%	42.85%	33.33%	60.87%	79.16%	57.70%

### Subject wise first in college

SUBJECT	NAME OF THE STUDENT	Marks Obtained
Chemistry	MS. TORKADI ASHWINI RAMNATH	680
Physics	MR. SHAIKH AAMIR ASRARUDDIN	572
Mathematics	MS. SYED UMME KULSUM MOHDANAS	583
Statistics	MR. BELHEKAR SUMEET ANIL	735
Botany	MS. SHAIKH HEENA ABDULWAHAB	603
Zoology	MS. SINGH SHILPA HARINAM	587 # 10
Biotechnology	MR. BENDRE AMIT NAVNIT	615 # 10
Microbiology	MS. TIDKE ANJALI GOVIND	583
Comp. Sci.	MS. PATIL SONAL CHANDRAKANT	588





## JUNIOR COLLEGE ENDOWMENT PRIZES 2012 - 2013

Sr. No.	Name of Awardee	Name of Students	Remarks
1	Dr.V.N.Bedekar Science Prize of Rs. 125/- (on behalf of Vidya Prasarak Mandal, Thane)	Mr.Niphadkar Tejas Sudhir Swapna	Being the First in rank among the students of this college passing HSC Examination of Mumbai Board in February, 2013.
2.	Late Shri.Vasant Ramkrishna Karnik & Smt.Indira V.Karnik Science Prize of Rs. 90/- (though Shri.Shirish V. Karnik)	Mr.Juvala Sohan Nandkumar Netra	Obtaining the Highest Marks at the SSC - Examination, March 2013 among the students admitted to this college in F.Y.J.C. Class.
3.	Late Shri.Nilkanth Ganesh Gokhale Baroda, Science Prize of Rs. 270/- (through Mrs.Shakuntala Anant Sane, Thane)	Ms.Kendre Vaidehi Vilas Snehal	Being the First in rank among the student of this college passing MT-CET (PCB) Exam. 2013 of Maharashtra State Govt. and joining The Medical Faculty for further Studies.
4.	Late Shri.Gundakar N. Joshi Smarak Yojana Science Prize of Rs. 150/- (through Vidya Prasarak Mandal, Thane)	Mr.Niphadkar Tejas Sudhir Swapna	Being the First in rank among the students of this college at the last HSC Examination of Mumbai Board.

Sr. No.	Name of Awardee	Name of Students	Remarks
5.	Late Shri.Hanumant Sitaram Dixit Prize of Rs. 270/- (through Prof.M.H.Dixit)	Ms.Vobbilishetty Deepti Ravi Sudha	Obtaining the Highest Marks in Biology among the students of this College passing HSC Exam of March, 2013 of Mumbai Divisional Board.
6.	Late Dr. Dattatraya Balkrishna Pendharkar L.C.P.S. Jalgaon Prize of Rs. 270/- (through Mrs. Sheela Gajanan Tembe, Thane)	Ms.Kendre Vaidehi Vilas Snehal	Being the First in rank among the students of this college passing MT-CET 2013 Exami - nation of Maharashtra Board and Joining the Medical Faculty for further studies.
7.	Late Shri.Madhav Govind Deo & Late Smt. Mangalabai Madhav Deo, Thane Prize of Rs. 135/-	Ms.Kendre Vaidehi Vilas Snehal	For the student getting highest marks in P.C.B. securing admission in Medical College in Std. XII.
8	Late Shri.Madhav Govind Deo & Late Smt. Mangalabai Madhav Deo, Thane Prize of Rs. 135/-	Ms.Ray Pearl Partha Sarathi Purnima	For the student highest marks in P.C.M.

*Congratulations*



## DEGREE COLLEGE ENDOWMENT PRIZES 2012 - 2013

Sr. No.	Name of Awardee	Name of Students	Remarks
1	Late Mrs.Anandibai Krishna Gokhale Science Prize of Rs. 135/- (through Late Shri.R.K.Gokhale, Thane)	Mr.Belhekar Sumeet Anil Savita	Being the First in rank among the student of this college passing B.Sc. Examination of Mumbai University in April, 2013.
2	Late Shri.Gunakar N.Joshi Smarak Yojana Science Prize of Rs. 150/- (through Past Students' Association)	Mr.Belhekar Sumeet Anil Savita	Being the First in rank amongst the students of this college passing B.Sc. Examination of Mumbai University, April, 2013.
3	Shri. Swami Samarth Prize of Rs. 170/- (through Dr. R.P Athalya & Family)	Ms.Singh Shilpa Harinam Mathilesh	To the student of this college passing T.Y.B.Sc. Examination of the University securing highest marks in Zoology at FYBSc/ SYBSc & TYBSc taken together and who has completed the B.Sc. Degree Course in three years without A.T.K.T.
4	Shri.Swami Samarth Prize of Rs. 100/- (through Dr.R.P.Athalye & Falimy)	Mr.Thakur Rohit Pradip Pratima	To be awarded to the student who has secured First prize in Music Competition.
5	Shri.Dattaram S. Natekar & Mrs. Kamal D.Natekar, Thane Science Prize of Rs. 45/- in memory of their son Late Vijay Natekar.	Mr.Belhekar Sumeet Anil Savita	Being the First in rank among the student of this college passing B.Sc. Examination April, 2012.
6	Shri.Dattaram S. Natekar & Mrs. Kamal D.Natekar, Thane Science Prize of Rs. 45/- in memory of their son Late Vijay Natekar.	Ms.Takke Priyanka Tukaram Urmila	Securing highest marks from amongst Backward Class students of this college passing B.Sc. Examination April,2012.

Sr. No.	Name of Awardee	Name of Students	Remarks
7	Late Prof.Dr.Mrs.S.S.Borgaonkar Prize of Rs. 270/- (through Prof.S.K.Borgaonkar)	Ms.Singh Shilpa Harinam Mathilesh	To the student of this college passing T.Y.B.Sc. Examination of the University securing highest marks in Zoology.
8	Late Shri.Mandar Suryakant Joshi Prize of Rs. 30/- (through Shri.S.M.Joshi, Thane)	Mr.Verma Radheshyam Ramjanak Sarjudevi	To be awarded to the best NCC cadet of this college alternately from Boys/Girls NCC (Army wing) every year.
9	Shri.Dhondo Waman Tillu Science Scholarship of Rs. 1000/- (through Vidya Prasarak Mandal, Thane)		To be awarded to the student studying in Post Graduate Science Class / MBBS/ Engineering.
10	Late Shri.Deepak Ganesh Kokaje Prize of Rs. 270/-	Mr.Shaikh Aamir Asraruddin Salma	To the best student of this college passing T.Y.B.Sc. Exam of the University securing highest marks in Physics.
11.	Late Shri.Bhagwandas Huku Hotchand Keswani Price of Rs. 270/-	Ms.Syed Umme Kulsum Mohdanas Mehtab Begum	To be awarded to the student of this college securing highest marks in Mathematics.
12.	Late Shri.Bhoir Himanshu R. Prize of Rs. 270/-	Shaikh Heena Abdulwahab Zahida	To be awarded to the student of this college passing T.Y.B.Sc. Exam securing highest marks in Botany.
13.	Late Smt.Indira Phadke Prize of Rs. 270/- (through Prof. Mrs.S.M.Phatak)	Mr.Belhekar Sumeet Anil Savita	To be awarded to the student of this college passing T.Y.B.Sc. Exam securing highest marks in Statistics.



Sr. No.	Name of Awardee	Name of Students	Remarks
14	Late Shri.G.R.Patil & Late Smt.S.G.Patil Prize of Rs. 270/- (through Ex-Principal Shri.C.G.Patil, Thane)	Ms.Mehendale Arpita Pramod Madhavi	Being the First in F.Y.B.Sc. in the college Examination in the academic Year 2012-2013.
15	Late Shri.G.R.Patil & Late Smt. S.G.Patil Prize of Rs. 270/- (through Ex-Principal Shri.C.G.Patil, Thane)	Ms.Garud Sayali Anil Sangeeta	Being the First in S.Y.B.Sc. in the college Examination in the academic Year 2012-2013.
16	Late Shri.G.R.Patil & Late Smt.S.G.Patil Prize of Rs. 270/- (through Ex-Principal Shri.C.G.Patil, Thane)	Ms.Rebello Shawna Nemesia Ian Pauline	Being the First in M.Sc. Part II in the College in the academic Year 2012-2013.
17	“Mayuresh and Alpana Past Students Statistics 1984” Rs. 270/- (through Past Students Mr.Mayuresh Dhond & Alpana Gupte)	Mr.Belhekar Sumeet Anil Savita	Being the First in Statistics in T.Y.B.Sc. Examination April, 2013.
18	Prize of Rs. 1000/- for being 1 <sup>st</sup> in Chemistry at T.Y.B.Sc. through the past students of 1984 Batch of this college	Ms.Torkadi Ashwini Ramnath Manda	
19	Prize of Rs. 1000/- for being 1 <sup>st</sup> in Maths at T.Y.B.Sc. through the past students of 1984 Batch of this college	Ms. Syed Umme Kulsum Mohdanas Mehtab Begum	
20	Prize of Rs. 1000/- for being 1 <sup>st</sup> in Statistic at T.Y.B.Sc. through the past students of 1984 Batch of this college	Mr.Belhekar Sumeet Anil Savita	

*Congratulations*

## ACHIEVEMENTS OF TEACHERS

- 1) **Mr. Dilip Shenai**, Assistant Professor (Dept. of Environmental Science)
    - a. Passed PET exam conducted by University of Mumbai in May 2013.
    - b. Cleared the interview for Ph.D in B.N. Bandodkar College of Science in August 2013.
    - c. Registered for Ph.D in October 2013 on the the topic Terrace Gardens: An Environmental Perspective.
    - c. Was a part of the Organizing Committee of the **National Conference on Biodiversity Status and Challenges in Conservation 'FAVEO 2013'** and the 2 preparatory workshops preceding the conference in July 2013 and September 2013
    - d. Published 4 papers in the proceeding of the **National Conference on Biodiversity Status and Challenges in Conservation 'FAVEO 2013'** ISBN: 978-81-923628-1-6 as follows:
- | Title of Paper  | Authors  |
|---|--|
| Recent Study on Butterfly Diversity at Jhandweep, V.P.M Campus, Thane Maharashtra                             | Poonam Kurve, Dilip Shenai, Ashutosh Joshi and Madhuri Pejaver |
| Bivalve and Gastropod Diversity of Borli Coast, Dist. Raigad  | Poonam Kurve, Nirmalkumar Kurve, Dilip Shenai and Gayatri Oak  |
| Phytoplankton Enumeration with respect to water parameters of Kurul Lake- Alibaght, Dist- Raigad, Maharashtra | Gayatri Oak, Dilip Shenai, Sneha Joshi and Poonam Kurve        |
| Comparative study of Flora of Three Plateaus in Western Maharashtra   | D.D. Shenai, M.U Borkar and M. K. Pejaver                      |
- 2) **Ms. Sonal Mathias**, Dept. of Biotechnology,
    - a) Qualified GATE examination 2013 conducted by IIT with AIR Rank 1551 among 16159 with 90.4 percentile.
    - b) Enrolled for Ph. D. Environmental Science under Dr. Mrs. M. K. Pejaver.
  - 3) **Dr. Moses Kolet**, Dept. Botany
    - a) Presented a research paper titled 'Agricultural wastes as carrier materials for starter cultures of cellulolytic inoculum for rapid composting' and chaired a scientific session in International Conference on Biotechnology held at Tirupati in June 2013.
    - b) Recognized as a post-graduate teacher of the university (by papers and research) in the subject of Ev.S. in Nov 2013
    - c) Published 2 research papers in International journals.
  - 4) **Dr. Ketan Thatte**, Dept. of Biotechnology,
    - a) Ph.D. degree (Biotechnology) was awarded in May 2013 by University of Mumbai. The research topic was Genetic diversity and sexual phenotyping of *Garcinia indica*.
    - b) Passed M.Sc. Botany examination with Distinction, Hold first rank in Birla College, Kalyan. in the year June 2013.
    - c) Qualified GATE examination 2013 conducted by IIT with AIR Rank 747 among 12920 with 94<sup>th</sup> percent.
  - 5) **Dr. Mrs. Poonam. N. Kurve**, Associate Professor, Dept of Zoology & Coordinator - Dept. of Environmental Science B.N.Bandodkar College of Science Thane.
    - a. Received recognition as a guide for Ph.D. in Zoology and Environmental Science from University of Mumbai in 2013.



- b. Appointed as coordinator, Environmental Science Department.
- c. Worked as Organizing secretary for National Conference on Biodiversity: Status and Challenges in Conservation FAVEO 2013 on 29<sup>th</sup> and 30<sup>th</sup> November 2013 and two preparatory workshops on the same on 27<sup>th</sup> July 2013 and 28<sup>th</sup> September 2013
- d. Published 5 research papers and 2 articles in proceedings (ISBN:978-81-923628-1-6) of National Conference on Biodiversity: Status and Challenges in conservation FAVEO 2013.
- e. Guided T.Y.B.Sc. and M.Sc. (Environmental Science) students for

mini research project.

- 6) **Dr. Mrs. Sandhya Rajendra Pawale** (Biology) Acquired Ph.D Degree in Life Sciences (Guide : Prof. A. R. Kulkarni)  
(In vitro studies on some medicinal plants -syzygium (Jambhul) Phyllanthus erecta (Bhuiawla) and Abelmoschus esculentus (Bhindi)) From Mumbai University Dept of Life Sciences in June 2013.
- 7) **Dr. M. V. Ratnam**, Dept. Chemistry Successfully guided a student (Mr.Rajeevkumar Rajbhadur Singh) For Ph.D degree in chemistry from Mumbai University.

### **Mr. PremSagar Mistri Pursuing M. Sc. by Research in Zoology**

- Published a scientific paper on Egrets Heronary Conservation Activites in Raigad district under the guidance of Dr.(Mrs) M.K. Pejaver.
- Bestowed with “**Vasundhara Mitra Puraskaar**” for his devoted work of vulture conservation; and action plan at Mhasala taluka forest. **Kirloskar Vasundhara** is a movement to enhance awareness about environmental issues, cultivate the desired attitude and promote behavior, conducive to environmental conservation.

### **Dr. A. P. Patil (Head department of Statistics)**

Acquired Ph.D. Degree (Jan 2014) under the guidance of Dr. Piyush Desai, from Veer Narmad South Gujrat University, Surat. His topic was Computational Comparative Genomics of Protio Bacteria.

### **Dr. Pooja Jagasia (Department of Chemistry)**

- An amount of Rs.85,000/- has been sanctioned for a Minor Research Project, UGC (Duration 2 Years) in the Month of April 2013. File No.47-325/12 (WRO).
- Recognized as a teacher of the University of Mumbai for the Ph.D. (Science) degree in Chemistry with effect from 2<sup>nd</sup> May 2013.

### **Prof. Mrs. Sangeeta Meshram** (Department of Physics)

प्रजासत्ताक दिनाच्या पूर्वसंध्येला ‘आदर्श विकास मंडळ’, डॉ.बाबासाहेब सभागृह, उल्हासनगर-४, आयोजित कवी संमेलनात ‘तहजिब’ ह्या कवितेला द्वितीय पारितोषिक मिळाले.

### **Mr. Vipul Vasant Chavan** (Lab Assistant in Zoology / I.T.)

Passed M.Sc. (Information Technology) from Mumbai University.

### **प्रा. अनिल आठवले**

२०१३ यावर्षी मिळालेले (सामाजिक, सांस्कृतिक व शैक्षणिक क्षेत्रात उल्लेखनिय कार्याबद्दल) पुरस्कार.

- ठाणे गुणिजन
- राष्ट्रीय क्रांतीज्योती विकास अवार्ड
- राष्ट्रीय कर्तव्य अभियान पुरस्कार
- डॉक्टर रुग्ण मित्र गुणवंत रत्न पुरस्कार
- कार्यशाळा प्रमाणपत्र - पर्यावरण शिक्षण
- सृजनशाला प्रमाणपत्र - रामभाऊ म्हाळगी प्रबोधिनी



## प्रा. प्रकाश माळी यांना प्राप्त झालेले पुरस्कार (२०१३)

अ.नं.	संस्थेचे नांव	स्तर	पुरस्कार
१	साप्ताहिक उल्हास प्रभात	राज्यस्तरीय	महाराष्ट्र शिक्षण रत्न पुरस्कार
२	कोकण ग्राम विकास मंडळ	राज्यस्तरीय	साहित्य सेवा पुरस्कार
३	स्व.सोमनाथ गायकवाड सामाजिक प्रतिष्ठान	राज्यस्तरीय	महात्मा जोतिबा फुले पुरस्कार
४	मालतीदेवी मानव विकास सामाजिक ट्रस्ट	राष्ट्रस्तरीय	समाजसेवा पद्मश्री पुरस्कार
५	जनजागृती समाज सेवा संस्था	राष्ट्रस्तरीय	शिर्डी साईबाबा समाजसेवा पुरस्कार
६	राष्ट्रीय वृत्तपत्र साप्ताहिक बुध्दस्थान	राष्ट्रस्तरीय	फुले शाहू आंबेडकर लोकमित्र पुरस्कार
७	ज्ञानसाधना ट्रस्ट	जिल्हास्तर	स्वातंत्र्यसेनानी मा.दत्ताजी ताम्हाणे आदर्श शिक्षक पुरस्कार
८	दै.गावकरी व समर्थ ॲडव्हर्टाईजर्स	राज्यस्तरीय	स्वामी विवेकानंद आदर्श शिक्षक पुरस्कार
९	आदर्श प्रतिष्ठान	राज्यस्तरीय	द्रोणाचार्य पुरस्कार
१०	जायंटस् ग्रुप फेडरेशन १ सी	विभागस्तर	कृतज्ञता पुरस्कार

## REPORT OF THE ENGLISH TEACHERS' TRAINING WORKSHOP

A Teachers' Training workshop on the Revised H.Sc. English Syllabus was held at B.N.Bandodkar College of Science, (Patanjali Auditorium), on the 28<sup>th</sup> & 29<sup>th</sup> of June 2013. The Workshop was organised jointly by M.S.Board of Hr.Sec.Edn. and D.D.E.Mumbai Division for all Junior College Teachers.

The Two-day workshop was conducted by eminent Resource Personnel, Mr. Avinash Rade, Mr. D.Z.Patil, Mr. R.V. Prasad and Mr. A.A.Patil. It was attended by 285 English Teachers of various Junior Colleges in Thane District.

The programme was inaugurated by lighting of the lamp, by the Resource co-ordinator, Mr. Avinash Rade, Junior College Vice-Principal Mr.H.B.Katkar and Supervisor Mrs. Pushpa Krishnan. Mrs. Francina Luiz welcomed the gathering and introduced the

Resource Personnel to the participants. Dr.Mrs.M.K.Pejaver, our Principal delivered an eloquent speech on the importance of English in higher education and the need for orientation programmes.

The Trainees were given through power-point presentations a comprehensive view of the course designed, the aims and objectives of the coursebook, the changes in the English Question Paper, teaching of poetry, Rapid-Reader, Grammar and Written & Oral Communication skills. The participants were all in praise for the manner in which the workshop was conducted.

The workshop came to a close with a 'Vote of Thanks' proposed by Mrs. Rachel Thomas and distribution of certificates to all the participants.

**Mrs. Francina Luiz**

In-charge English Department



## NATIONAL CONFERENCE ON BIODIVERSITY: STATUS AND CHALLENGES IN CONSERVATION 'FAVEO 2013'

Organized by the Department of Zoology and Environmental Science

Dated: 29<sup>th</sup> & 30<sup>th</sup> November 2013

The National Conference was organized by Department of Zoology and Environmental Science, B. N. Bandodkar college of Science in collaboration with Salim Ali Center for Ornithology and Natural History (SACON) and World Wide Fund for Nature (WWF)-India, Maharashtra State Office. The planning for the conference began



almost a year in advance. Two preparatory workshops were conducted for the students in the month of July and September to orient them with the theme of the conference. Brochures were sent to all the stalwarts in the field and to most of the research institutes and colleges in Mumbai, Maharashtra and other parts of the country. Personalities of high repute in different fields of research were contacted for keynote addresses and all of them expressed willingness to accept the invitation. The preparation for conference went on in full swing with due participation by faculty and non-teaching members from Department of Zoology and Environmental Science.

On the day of conference, 29<sup>th</sup> November 2013 Inauguration program started sharp at 10.00 am. Organizing secretary Dr. (Mrs.) Poonam N. Kurve gave a brief overview of idea behind the theme of conference and its significance in the current scenario. She emphasized the involvement of educated population in conservation of nature.

Dr. (Mrs.) Madhuri K. Pejaver, Principal of the college addressed the gathering. She spoke about the role of B. N. Bandodkar College of Science in research, in the field of Biodiversity and its Conservation. It was specified in her speech that, the conferences organized by the college and the preceding workshops are mainly for attracting young generation towards research and making them conscious about the application of this research for better living. Keeping the tradition in mind she also made an announcement of the next national conference which will be organized by the Department of Botany on Taxonomy, in January 2015.

Padmashree Dr. Sharad Kale, Scientist,



Bhabha Atomic Research Center was the chief guest for the inaugural function. Mr. J. N. Kayal, Joint Secretary of Vidya Prasarak Mandal attended the inaugural function on behalf of the management. Dr. Sharad Kale was felicitated for his achievement in the field of research. His model 'Nisarg Roon' (Nature's

given by him about nesting in hornbills, certain peculiar habits like collection of pieces of bark, feeding young ones and female by the male really enriched the audience.

Dr. Vinay Deshmukh, Principal Scientist, Central Marine Fishery Research Institute, Mumbai delivered a talk on Indicator



Species. Animal or plant species as indicator of a particular environmental state was explained by him with various examples. In his lecture lichens and dragonflies were shown to be indicator of good air quality and owls as indicator of old forest. He introduced the concept of exploitation

ratio for conservation. debt) has received numerous accolades for which he has been honored with The Padmashree Award - one of the most prestigious civilian award of our country. Dr. Sharad Kale also shared important principles of 'Ahm Bhrahmasmi' and 'Idam na mam' which should be followed in life to take care of the ecosystem.

Dr. Ganesh Wankhede, Head, Department of Zoology, Amravati University enthralled the audience through his keynote address on world of spiders. His area of interest being Arachnids he has collected over 95 different species of spiders in a span of 5 years. He elaborated on the commercial use of spider-web silk. He expressed a concern over threat to spiders due to modern agricultural practices. It thus, exhibited the significance of an otherwise insignificant organism 'spider'.

Dr. Raju Kasambe, Scientist, Bombay Natural History Society gave a talk on Indian Grey Hornbills. specialized Information were

ratio for conservation.

Next keynote address was by Dr. Goldin Quadros, Senior Scientist, Salim Ali Center for Ornithology Natural History. He talked about the rich flora and fauna in Maharashtra. The various ecosystem services and their importance were also stressed upon. Carbon sequestration to mitigate air pollution was discussed in the lecture.

Dr. Raghunandan Athalye, Associate Professor, Department of Zoology, B. N. Bandodkar College of Science addressed the gathering there after. He described the rich biodiversity of Thane creek. The urgent need for proper solid waste management so as to minimize the pollution was stressed. Awareness amongst the researchers was stated to be need of the hour.

The second day of the conference started with the keynote address of Dr. R. Nagrajan, Faculty, Department of Zoology, AVC College, Chennai. He gave a talk on



behavioral peculiarities of oystercatchers. He also discussed selection of bivalves by the birds according to the nutrient content of them.

Dr. Geetanjali Deshmukhe, Principal Scientist, Central Institute for Fishery Education, Mumbai gave a talk on marine biodiversity in Maharashtra and the role of community. The expanse of mangrove cover in Maharashtra and the threat to it due to developmental activity, agriculture and pollution was stressed upon. She explained how edible marine algae can be used as vegetables.

Dr. Narsinh Thakur, Senior Scientist, National Institute of Oceanography, Goa delivered a lecture on DNA barcoding according to him in the current research scenario, information about barcoding technique is essential in almost every species' level identification, particularly when it comes to study of biodiversity.

Dr. Kauresh Vacharajani, Associate Professor in Zoology, M.S. University, Baroda delivered a talk on ecologically sensitive marina. He stressed the importance of interdisciplinary research for better understanding of various aspects of biodiversity. The formation and pattern of burrow formation by crabs was studied by applying technology like, digital X-ray, CT scanning, etc and underground activity of the crabs was investigated. Hazardous effect of events like oil spill, pollution on coastal biodiversity was discussed in the talk.

Ms. Gauri Gurav, Education Officer, WWF-India, Mumbai gave a talk on Environment Education. She conveyed the benefits of imparting environment education at young age. It was explained that, awareness

can be generated in school and college kids through environment education.

Dr. Baban Ingole, Chief Scientist, National Institute of Oceanography, Goa gave a talk on Coastal Biodiversity and Ecosystem Functioning. He insisted upon involvement of people in conservation and sustainable utilization of ecosystem services. Significance of the conference and its title was discussed in details. He explained human involvement in caring for nature with the example of efforts put in by him and his team in restoration of Chilika Lake and its proper saline nature. Conference as an initiative towards conservation was appreciated in his lecture.

The conference was attended by 216 participants which included undergraduate, postgraduate students, researchers and participants from other colleges and institution from various institutions across the country.

The Valedictory function was presided over by Dr. Baban Ingole, Principal Dr. Mrs. M.K. Pejaver, Vice - Principal Dr. R.P. Athalye and Organizing secretary Dr. Mrs. P.N. Kurve. Dr. Ingole was impressed and appreciated the overall arrangement and management of the conference. Guests and keynote speakers were also all praise for the entire organization effort in the conference.

*Dr. Mrs. P. N. Kurve*



## GYMKHANA REPORT

We started our Gymkhana Indoor activities from 11<sup>th</sup> June 2013.

### Selection of Gymkhana Secretary

Miss.Sawant Mrudula Vijaykumar (S.Y.B.Sc./Micro Biology) was selected as Gymkhana Secretary for the year 2013-2014.

### Participation of Students in various Competitions

About 270 students from Junior and Degree College participated in Group Events as well as Individual Events in tournaments / competitions arranged by Zilla Parishad, University and State Level.

### Group Participation and Achievements

#### 1] *Chess Tournament*

Our Degree college team participated in Chess Tournament organized by University of Mumbai.

Our Junior College boys' team participated in District Level & **Vedant Dalavi R. (F.Y.J.C./C)** is selected for the chess tournament at Division Level.

#### 2] *Cricket Tournament*

Under the able guidance of **cricket coach Mr. Kiran V. Salgaonkar**, our Degree college team participated in Inter collegiate Cricket Tournament organised by University of Mumbai, and Junior college team participated in Tournaments organized by T.M.C.

**Our Cricket team won trophy at Dimensions – 2014, organized by KET's V. G. Vaze College of Arts, Science & Commerce. Mulund (East)**

#### 3] *Table Tennis Tournament*

Our Degree college Boys' team

participated in Table Tennis Inter colligate Tournaments organized by University of Mumbai.

Our Junior college Boys' team participated in Table Tennis tournaments organized by T.M.C. Girls' team was Selected at Division level. **Apate Bhairavi B. (S.Y.J.C./C)** was selected for **State Level Tournaments**.

#### 4] *Athletics*

Our Degree College Men & Women participated in Inter collegiate **Athletic Meet** organized by University of Mumbai.

Junior college boys participated in Athletics Meet. **Achyut Uttam Gawade (S.Y.J.C./C) (5000 mts., 1500 mts. run & Cross Country) & Rupal C. Sarode (F.Y.J.C./B) (100 mts. , 200 mts. Run)** were selected for **Division Level**.

#### 5] *Football*

Our Degree college Boys' team participated in Football Tournament organized by University of Mumbai, and Junior College team participated in Football Tournament organized by T.M.C.

#### 6] *Kho – Kho*

Our Degree college Boys' team participated in Kho - Kho Tournament organized by University of Mumbai, and Junior College team participated in Kho - Kho Tournament organized by T.M.C.

#### 7] *Power Lifting*

One of our Degree College Student participated in Power Lifting Tournament organized by University of Mumbai.

#### 8] *Taekwando*

Our Degree College Girls participated in Taekwondo Tournament organized by University of Mumbai.





Our Junior College boys' & Girls' team participated in District Level Taekwondo competition organized by T.M.C.

#### 9] **Carrom**

Our Degree College Men and Women team participated in Inter collegiate Carrom Tournament organized by University of Mumbai.

Junior college **Boys & Girls team** participated at District Level Carrom Competition Organized by T.M.C.

#### 10] **Judo**

Our Degree College girls participated in Judo competition organized by University of Mumbai.

Miss Jagdale Aarati S.(S.Y.J.C./C) was selected for Division level in Judo competition organized by T.M.C.

#### 11] **Badminton**

Our Degree College Men and Women team participated in Inter collegiate Badminton Tournament organized by University of Mumbai.

Our Junior College Girls' & Boys' team participated in District level.Girls' team was Selected for Divisional level.Mr.Kotwal Sushant S. (S.Y.J.C./C) was selected for Divisional level in Badminton Tournament organized by T.M.C.

#### 12] **Swimming**

Our Degree College Men participated in Inter collegiate Swimming Competition organized by University of Mumbai and Junior College Girls' & Boys' team participated at District level.

Mr.Pedenekar Shivam S. (S.Y.J.C./B) (50 Mts.Free & 50 mts Fly Stroke) & Miss Pawar Shraddha Y. (S.Y.J.C./B) (50 mts. Breast, 50 Mts.Free, 100 mts.Breast Stroke) & Miss Surve Janhavi S. (F.Y.J.C./B)(50 mts. Breast, 100 mts.Breast Stroke) were Selected for Divisional

level Swimming Competition organized by T.M.C.

#### 13] **Volleyball**

Our Degree college Men & Women team participated in Inter collegiate Volleyball Tournament organized by University of Mumbai and Junior College team participated in Volleyball Tournament organized by T.M.C.

#### 14] **Handball**

Our Junior College team participated in Handball Tournament organized by T.M.C.

#### 15] **Netball**

Our Junior College team was selected at Divisional level for Netball Tournament organized by T.M.C.

#### 16] **Basketball**

Our Junior College team participated in Basketball Tournament organized by T.M.C.

#### 17] **Kick Boxing**

Our Junior College Boys & Girls participated in District level competition.Miss Nakhwa Samruddhi S.( F.Y.J.C./C) was Selected for Divisional level Kick Boxing Tournament organized by T.M.C.

#### 18] **Lawn Tennis**

Our Junior College team participated in Lawn Tennis Tournament organized by T.M.C.

#### 19] **Karate**

Our Junior College Girls' & Boys' team participated in District levelcompetition. Miss Shirke Smita S. (F.Y.J.C./C)was Selected for Divisional level in karate Competition organized by T.M.C.

#### 20] **Cross Country**

Our Degree college Men's team

participated in Inter collegiate Cross Country Competition organized by University of Mumbai.

### 21] Wrestling

Our Degree College Women's team participated in Inter collegiate wrestling Competition organized by University of Mumbai.

### 22] Mallakhamb

One of our Degree College Student participated in Mallakhamb Competition organized by University of Mumbai.

### 23] Kabaddi

Our Degree college Men's team

participated in Inter collegiate Kabaddi Tournament organized by University of Mumbai.

### 24] Boxing

Our Degree college Men team participated in Inter collegiate Boxing Competition organized by University of Mumbai.

### 25] Langadi

Our Degree college Women team participated in Inter collegiate Langadi Competition organized by University of Mumbai.

**Prof. P. G. Bamane**

*Co-ordinator*

*Gymkhana Committee*

## ANNUAL SPORTS ACTIVITIES

Indoor Activities were held from **5<sup>th</sup> December 2013 to 17<sup>th</sup> December 2013.**

**Annual Athletic Meet** was organized on **21<sup>th</sup> December 2013** on college ground.

293 Students and 50 Teaching & Non-Teaching members participated in various events.

**General Championship were awarded to the following Students.**

Students Name	Junior / Degree College	Class & Div.
Sahu Ajay Ravindra	Degree College	S.Y.B.Sc. / E
Gawade Achyut Uttam	Junior College	S.Y.J.C. / C
Chawathe Ashwini Sachin	Degree College & Junior College Girls	S.Y.J.C. / A

**Mrs. Devayani Ladhe** from Gymkhana attended International Conference “Research on Yoga and Holistic Health and Sports Sciences” and also participated in the 35<sup>th</sup> Maharashtra Masters Athletic Inter-District Championship 2014 & Won 2<sup>nd</sup> place in 10,000 m. Run & 3<sup>rd</sup> place in Triple Jump in 35 + Group.





## NCC

The activities of the National Cadet Corps:

### Administrative front -

Mr. Abhijeet N. Barse was appointed as senior under officer. And Mr. Shravan B. Pawar and Mr. Mahesh M. Kaviskar were appointed as junior under officer. And Mr. Atharv A. Deshpande was appointed as CSM and Mr. Aniket A. Kshirsagar was appointed as cqms of the unit. Mr. Patil Akshay represented NCC in the student's council of Bandodkar college.

### Enrolment drive -

Enrolment of the cadets commenced in July 2013. Eligible students from the Jnanadweepa campus participated with enthusiasm in the enrolment drive.

### Results of the certificate examinations-

The unit achieved 100% result in the NCC 'B' and 'C' certificate examinations.

### Training-

Apart from the regular training parades conducted in the college campus, Cadets participated in several regional, state, and national level training camps and allied activities, glimpses of which are mentioned below.

### Regional and group level camp-

- Six cadets participated in the ATC and pre-TSC camp and shooting trials at Mumbai and Thane from 5<sup>th</sup> June to 15<sup>th</sup> June 2013.
- Two cadets took part in the pre-TSC camp-i and TSC-ii at Nashik in July 2012.
- One cadet participated in the 3<sup>rd</sup> TSC camp at Nashik in August 2013.

- Ten cadets took part in the 1<sup>st</sup> ATC camp at Colaba, Mumbai in August 2013.
- Four cadets participated in weapon firing camp organised in Mumbai in October 2013.
- Thirteen cadets received training in 3<sup>rd</sup> annual training camp organized in the month of December and January 2013 at Nashik.

### State level camp-

- Six cadets were attached with regular units of the Indian army at Ahmednagar for a period of 15 days as part of army attachment camp conducted in December 2013.

### National level camp-

- Two cadets took part in the National Integration Camp (NIC) at Kerala in the month of September 2013.

### Participation in other activities-

- Twenty cadets participated in the personality development and leadership training course organized by B. N. Bandodkar college in October 2013.
- The unit volunteered its services for the disaster management drill held in Bandodkar college in September 2013.
- 6 cadets volunteered their services during the Akanksha cultural festival of Bandodkar college in December 2013.
- All cadets are currently undergoing training in yoga as a part of the certificate course in yoga, offered by

B. N. Bandodkar college of science in collaboration with Ambika yoga kutir, Thane.

- Eleven cadets participated in 'Nirbhaya Campaign' organized by University of Mumbai at convocation hall, University.
- Ten cadets volunteered their services for pulse polio campaign conducted by Thane Municipal Corporation.
- Seven cadets volunteered their services during blood donation drive at B. N. Bandodkar college organized by NSS unit.
- 32 cadets attended lecture on 'Interview skill' by Mr. Devdutt Kadrekar on 18<sup>th</sup> Aug 2013.

### Noteworthy achievements-

- Senior under officer Mr. Kaviskar Mahesh won silver medal in National Integration Camp at Kerala in December 2013.
- Junior under officer Mr. Kshirsagar Aniket won silver medal in national integration camp (NIC) at Kerala in December 2013.
- Gurpreet Singh winner of company commander's medal for endurance-2012, represented our unit at National level.
- Ex. Senior under officer Mr. Thapa won "Director General Award 2013".

**Prof. B. S. Dhumale**  
C.T.O. NCC

## BOTANY CLUB "SRISHTI"

The "Srishti" inauguration ceremony was held on 10<sup>th</sup> August, 2013 at Patanjali Sabhagrugha. The Chief Guest Principal **Dr. (Mrs.) M. K. Pejaver** graced the occasion and she gave a beautiful presentation on "My life my career". This year members of Botany club decided on guiding the young talents on taking a right decision regarding their career, and she had taken this opportunity in not only helping them with their choice of career but at the same time made them understand the importance of value education. She told them about various qualities which must be there in a person if he wants to be successful in life. She made the learning interesting by

presenting it skillfully with photographs of birds and animals depicting all those characters which must be present in a person like; hard work, teamwork, determination, patience... etc. She encouraged the students to observe and learn from Mother Nature. Response from students was noteworthy. The function was concluded by Ms. Pooja Malkar, student of T.Y.B.Sc. (Botany) with a small thanks giving speech.

No. of students participated	: 100
No. of teaching staff participated	: 10
No. of non-teaching staff participated	: 08

**Dr. (Mrs.) M. S. Mulgaonkar**



## WOMEN DEVELOPMENT CELL

As part of the Women Development Cell of B.N.Bandodkar College of Science, a lecture was organized on 6<sup>th</sup> January 2014; where in great social activist Smt. Sunandatai Patwardhan was invited as the chief guest. The aim to arrange such lecture was to inculcate a sense of responsibility and awareness about our social environment amongst the students. Because, every individual has a significant role in building up a society and in turn a nation as a whole.

The function was inaugurated in the Patanjali Sabhagruh and was graced by the Principal Dr. (Mrs.) M.K.Pejaver, Vice-Principal Dr. R.P. Athalye and around 15 staff members of different departments of the college. Around 70 students were present in large numbers. The function started with the felicitation of the chief guest by the Chairperson of WDC Dr. (Mrs.) M.K.Pejaver. A brief introduction of WDC and guest speaker was given by T.Y.B.Sc. students Ms. Pooja Malkar and Ms. Shubhangi Tayade. Smt. Sunandatai Patwardhan gave detailed information about her NGO, "Pragati Pratishthan", which is striving towards collective integrated development in Jawhar Tehsil for more than 35 years. The main objectives of Pragati Pratishthan are, improving socio-economic status of the tribal people, efficient management of land and water resources, education and rehabilitation of physically challenged in the tribal area and providing medical & healthcare facilities. She focused her talk on the sustainable integrated development of tribals in Jawhar & Mokhada Tehsil by undertaking various programmes in

the field of education, health, agriculture, water management, energy conservation and empowerment. Sunandatai feels happy and proud of her work for the deaf and the mute children of Thane's tribal belt. Recalling the initial days of her work with them, she explained about the difficulty of convincing the tribals of the need to teach their children. "The parents were under the impression that the deaf and the mute cannot be taught anything and so there was no need to waste time and energy on them," she said. Apart from this educational enhancement in the tribal communities, her organization also started a cashew-processing unit for the tribal farmers to market their produce. The raw cashew acquired from them is processed and marketed by the unit. This creates a new era of empowerment by self help groups of the tribals.

In such a way Sunandatai is always eager to work for the betterment of some not so fortunate souls. Her commitment and dedication towards social work are commendable and most certainly praiseworthy. The programme was concluded with a warm thanksgiving by Ms. Tejal Ambre, student of F.Y.B.Sc. She made it extra special by delivering a couple of line from a beautiful ghazal.

Number of Students participated - 70

Number of teachers participated - 15

Number of non-teachers participated - 07

**Dr. (Mrs.) M. S. Mulgaonkar**  
Co-ordinator,  
Women Development Cell

## YOGA COMMITTEE

Yoga Committee regularly organizes Yoga training for students and staff in collaboration with Shri Ambika Yog Kutir, Thane.

Yoga activities for year 2013-2014 began on 15<sup>th</sup> June 2013 with the 1<sup>st</sup> batch of certificate course in Yoga. 25 students participated in the training. Valedictory function was arranged on 10<sup>th</sup> August 2013; the chief guest being Shri Ramanchadra Surveji, secretary, Shri Ambika Yog Kutir.

Four batches of Yoga training were arranged for all students (440) of XI std. during period 15<sup>th</sup> July 2013 to 20<sup>th</sup> Sept. 2013 on every Monday, Tuesday, Thursday and Friday. The students were guided by Yoga teachers from Shri Ambika Yog Kutir.

A Six days workshop for NSS students was arranged during period 23<sup>rd</sup> to 30<sup>th</sup> Oct 2013. Yoga training was given for 2 hours on every day. Especially girl NSS volunteers responded well to the Yoga training. 40 NSS volunteers attended the workshop.

In second term special Yoga training classes are arranged for IT students and NCC Army Boys on every Saturday from 11.30 to

12.30 and 15.00 to 17.00 hrs. respectively. The training will be completed by 1<sup>st</sup> week of February 2014.

Our NSS unit while on a social service camp from 26<sup>th</sup> Dec. to 31<sup>st</sup> Dec. 2013 at Maan Aashramshala, Maan, Vikramgad, Dist. Thane, organized yoga training in collaboration with Shri Ambika Yog Kutir for about 450 students in the Aashramshala. The Yoga Teachers Ms. Harsha, Ms. Laxmi and Mr. Tushar from Shri Ambika Yog Kutir imparted the training.

The activities in this year were well supported by all the yoga committee members. We express with gratitude the co-operation received from Shri Ambika Yog Kutir, especially Shri Ramanchadra Surveji, Mrs. Dixit, Mr. Dixit, Shri Misal and all the Yoga teachers. We acknowledge with thanks the encouragement and guidance received from the Vidya Prasarak Mandal, Principal, Vice Principals and other staff of college; both teaching and non teaching.

The committee appeals the staff members and the students to take advantage of the Yoga training facility in our college because Yoga will always benefit everyone.

**Dr. R. P. Athalye**

Co-ordinator, Yoga committee

## SAHITYA SAHAVAS (BHASHA MANDAL)

The Sahitya Sahavas conducted programme on 'Nature & Rain' on Tuesday 06/8/2013 at Patanjali Sabhagriha. The students from Junior and Degree college participated in the programme. The students presented poems in the languages Hindi, English and Marathi. The teaching and the non teaching staff were also present for the programme. The teaching staff from Degree as well as Junior college presented the poems.

In the programme various aspects of the Rain and the Nature were described. The photographs of the Rain from the internet were displayed on the screen. The audio song in Marathi on 'Rain and Nature', one each song by Lata Mangeshkar and Asha Bhosale were also played at the programme. The programme was successful thus describing the importance of 'Rain and Nature'.

**Sudhir K. Bhosale**

Co-Ordinator

## LITERARY ASSOCIATION

The inaugural meeting of the literary association for the year 2013-2014 was held on 4<sup>th</sup> July 2013 to decide various activities. Miss Chinmayee Mestry (F. Y. B. Sc.) was selected as secretary of Literary association for year 2013-2014.

We organized various competitions such as Essay writing, poetry and story writing, Elocution and Debate, Quiz for junior and degree college students. About 264 students participated in these competitions.

We also encouraged our students to participate in various intercollegiate competitions. Students participated in the following competitions \Workshop.

- (1) University of Mumbai : elocution & quiz competition in 46<sup>th</sup> intercollegiate cultural competitions 2013-2014.
- (2) Shri S. V. Kulkarni English elocution

competition organized by Dnyana Sadhana college, Thane.

- (3) Essay competition by MLDC Alumni Association c/o M. L. Dahanukar college of commerce.
- (4) Essay competition organized by Vivekanand Vichar parishad.
- (5) Short story competition in Srushti Mitra Awards 2013.
- (6) Intercollegiate short Story competition organised by Anti Dowry movement , Mumbai.
- (7) Elocution, Quiz, Group debate, Just a minute competition in Unmesh '13'.
- (8) Mahatma Gandhi Vichar Sanskar Pariksha. About 118 students participated in this competition.
- (9) Rambhau Mhalgi 'Srujanshala' workshop.

**Prof. Mrs. M. M. Ranade**

Co-ordinator

## MATHEMATICS DEPARTMENT CLUB ACTIVITY

Mathematics department had organized a guest lecture on “VARIOUS CAREER OPPORTUNITIES” on August 23, 2013. Mr. Niketan Taware, Director and founder of Nirmala Consol Private Limited was invited to deliver a talk.

One hundred and forty five students of FYBSc, SYBSc and TYBSc attended the lecture.

Mr. Niketan Taware (B.Tech from VJTI

and MMS from JBIMS) threw light on various job opportunities available in different sectors such as Real Estate, Travelling, Education, Share Market, private companies, competitive exams and so on.

He made the students aware of how one should prepare oneself to face the challenges in today's scenario. His talk was an interactive session which was appreciated by the students.

**Prof. M. T. Wankhede,**

Head, Mathematics Dept.

## ग्रंथालय अहवाल

ग्रंथालयात यावर्षी ९५५ पुस्तके खरेदी करण्यात आली. मराठी भाषा दिनाच्या निमित्ताने “महाराष्ट्रातील संत” या विषयावर विविध भिक्तीचित्रिकांचे प्रदर्शन भरवले होते. तसेच विद्यान दिनाच्या निमित्त विविध शास्त्रज्ञांवर पुस्तक प्रदर्शन आणि “नोबेल पारितोषिक विजेते भारतीय संशोधक” या विषयावर विविध भिक्तीचित्रिकांचे प्रदर्शन भरवले होते.

यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठातर्फे चालविण्यात येणाऱ्या ग्रंथालयात व माहितीशास्त्र पदवी अभ्यासक्रमाला यावर्षी ३६ विद्यार्थ्यांनी प्रवेश घेतला तर निष्णात अभ्यासक्रमाकरिता २५ विद्यार्थी आणि वृत्तपत्रविद्या व जनसंपादन पदविका अभ्यासक्रमाकरिता

११ विद्यार्थी दाखल झाले.

यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठातर्फे एम. लिब. अभ्यासक्रमाच्या विद्यार्थ्यांकरिता प्रकल्प मार्गदर्शन शिबीर दि. ३१ डिसेंबर २०१३ ते २ जानेवारी २०१४ या कालावधीत आयोजित करण्यात आले होते. डॉ. प्रकाश करमरकर, निवृत्त ग्रंथपाल वझे केळकर महाविद्यालय व प्रा. नारायण बारसे, ग्रंथपाल जोशी बेडेकर महाविद्यालय हे तज्ञ मार्गदर्शक म्हणून उपस्थित होते. या शिबिरामध्ये २१ विद्यार्थ्यांनी शोध निबंध व प्रकल्प आराखडे सादर केले.

**सौ. कांदबरी मांजरेकर**

(ग्रंथपाल)



## JUNIOR COLLEGE CAREER MELAWA DECEMBER, 2013 REPORT

The Career Melawa for junior college students was held on Monday, 2<sup>nd</sup> December 2013 & Tuesday, 3<sup>rd</sup> December 2013 at Patanjali Sabhagruha.

The programme was inaugurated by our Vice-Principal (Degree College) Dr. R.P. Athalye, Vice-Principal (Jr. College) Mr. H.B. Katkar, and Supervisor (Jr. College) Mrs. Pushpa Krishnan.

The lecture commenced with a motivating speech by Mr. Vilas Mungekar, a specialized trainer on mind programming, public speaking, parenting & student development. He is the author and narrator of several best selling books & audio-visual programmes related to success & motivation. He gave the students clear cut instructions on how to focus on their goals & achieve their desired targets.

Our Second Speaker was Dr. Nidhi Kewalramani specialized in medical Profession in hospital & healthcare management and at present Programme manager at Kohinoor College of Paramedical Science, Kurla. She effectively guided the students, on how they can obtain additional qualifications in any of the Paramedical Courses like lab technicians, dental technicians, occupational therapists, radiologists, dialysis technology etc. as they are pursuing their graduation.

Mr. Milind Pawar, faculty of Kohinoor IMI School of hospitality Khandala, spoke to the students about the various options and opportunities in hospitality management such as food & beverage sections, front deck operations of office, room services etc.

The last session for the day was conducted by Mr. Harish Butle, a B.E. From Government Engineering College, Pune & founder member & secretary of DEEPER. He gave our students the much needed guidance about the various entrance exams for medical & engineering.

The second day of the Career Melawa

began with an interesting audio-visual presentation about multi-media and entertainment by Mrs. Madhuri Shiudkar. She spoke about VFX effects, Computer graphics, Sound recording, film making as well as visual effects. She is an ex-anchor & TV reporter & currently appearing for MA (Marathi) & working in B.N. Bandodkar College of Science (Botany Dept.)

Mr. Pravin Ashok Adhav, a graduate with professional qualification in hardware and networking, is presently a technical support engineer and Microsoft certified systems administrator. He explained the uses and drawbacks of internet and emphasized role of hard work. His colleague Mr. Rahul Bhatt spoke to the students regarding various courses in IT.

Mr. D.M. Murdeshwar, co-ordinator of self financing courses in VPM's Joshi-Bedekar College, explained about the different courses in management studies and how they are important in various sectors of industry.

The last speaker was the eminent person Dr. Sudhakar Agarkar, (Ph.D. From Pune University) presently Prof. & Dean At the VPM academy of International Education & Research, Thane. He had long career in science & maths education at Homi Bhabha Centre for science education (TIFR).

He inspired the students to write and present papers & projects on science subject. He highlighted the opportunities available in India, as great educational hub & motivated the students to take utmost advantage of the resources available within our country. The programme was much appreciated and enjoyed by over 350 students. All junior college teachers (36) and non teaching staff (6) actively participated to render the programme a great success.

**Prof. Mrs. Pushpa Krishnan,**  
Supervisor Junior College

## PHYSICS CLUB REPORT

### PHYSICS CARNIVAL

Soon after the New Year, the much awaited festival 'Physics Carnival' saw its commencement from 22<sup>nd</sup> to 27<sup>th</sup> Jan 2014. The event was inaugurated by honourable Vice Principal, Degree college Dr. R. P. Athalye. The events saw young enthusiastic Physics students participating in various competitions organized for them. The 'Department of Physics' wore a festive look. 22<sup>nd</sup> Jan, saw the interests of eager physicists taking part in various demonstration experiments, based on the theme 'Fun with science'. To name a few experiments: non-Newtonian liquid, ultrasonic waves to create fog, non-bursting balloon (!), magnetic levitation, bending of lasers, etc. Dr. Manohar Nyayate, Head, Dept. of Physics, Dr. R. P. Athalye and other physics professors were spell bound by watching the enthusiasm of these students. It was indeed a very Physionic experience!

On the 23<sup>rd</sup> the poster and PowerPoint presentation contests were held. The contest saw participants from both grad. and under grad level. Some of the topics were very refreshing and new like LHC, Femto photography, White noise etc. The judges for the event were Prof. Jitendra Pendharkar, Assistant Professor, K. J. Somaiya College and Prof. S. G. Bapat, Dept of Physics. They were awestruck by watching all the presentations and congratulated the participants at the end of the event.

24<sup>th</sup> Jan, marked the event of 'Katha

Kathan'. The event saw the *life changing stories* of many scientists which were presented by the students.

On the 21<sup>st</sup> of Jan the preliminaries of the Physics Quiz contest were arranged. 19 groups comprising of three students each were given 20 odd minutes to test their acumen with a written test. The top five groups that emerged as the maximum scorers are ready to participate in the Finals to be hosted on the 27<sup>th</sup> of Jan 2014.

Indeed, a lot of zest and enthusiasm could be seen during the physics carnival, from both students and teachers alike.

**Shruti S. Baug (M.Sc. I)**  
&  
**Anson Samuel (M.Sc. II)**

### LECTURE BY MR. AVADESH YADAV

Mr. Avadesh Yadav our Ex. student (2005 batch) who is presently working with multinational company "ICON Analytical" delivered a lecture on Electron Microscope on 1<sup>st</sup> Feb. 2014, in Patanjali Sabhagruha. He shared his experiences with M.Sc. and B.Sc. students & explained them the working of Electron Microscope. The lecture was very informative and innovative. Around 90 students and teachers attended the lecture.

**Prof. N. D. Mandge**  
(co-ordinator)  
&  
**Prof. B. K. Mandlekar**  
(Physics Club)

## CULTURAL REPORT

The events of the Cultural Association 2013 – 2014 began with 46<sup>th</sup> Youth Festival. Elimination Rounds for Zone IV (Central Railway) of University of Mumbai were conducted in our College on Monday, 12<sup>th</sup> August 2013. The function started with one Act play competition Inaugurated by Mr. Mrudul Nile, Coordinator, Students' Welfare Department of University of Mumbai. Various competitions like Music, Literary, Fine Arts, and Dance were organized in this festival. Near about 25 colleges, and total 1000 students were involved in this prestigious festival. From our college 65 students participated in Dance, Music and one act play event. **Mr. Chinmay Pethe** from TYBSc secured second prize in music competition.

The second event of Cultural Association was "Shri.Swami Samarth Light Vocal Music Competition" organized for Junior and Degree College students on Saturday, 31<sup>st</sup> August 2013 at Patanjali Sabhagruha of our college. This competition was inaugurated with lighting of lamps by the judge Dr.Mrs. Varada Dharap Godbole(Sangeet Visharad). Total 23 participants were selected from the audition which was held on 27<sup>th</sup> August 2013. Mr. Rohit Thakur from FYJC secured First Prize while Ajay Mali & Rajesh Manmole from FYJC secured second and Third prize respectively. Ms. Ritika Meshram FYJC secured consolation prize. Orchestra for this event was played by our college students. Teaching, Non teaching staff and around 250 students attended the programme.

In the month of December 2013 preparations for Annual Social "Aakanksha" began with students' involvement. This year students had selected "**Carnival**" as main

theme for Aakanksha. To create atmosphere the first programme "कलाकार तुमच्या भेटिला" was organized on 6<sup>th</sup> December 2013 at Patanjali Sabhagruha. Mr. Vighnesh Joshi, Actor, Mr. Mohan Pathak, Producer & Director, Mr. Soham Pathak, well known musician, Mr. Raju Patwardhan, Cine Actor and Mrs. Poornima Ahire, Cine Actress, were invited for the programme. On this occasion Mr. Ruturaj Sawant, Ms. Aishwarya Rane and Mr. Shubham Waghule from FYJC performed the mono act and received advice from the respective guests. It was truly mind blowing programme. Near about 200 students teaching and non teaching staff enjoyed the programme.

The programme "वेदाक्षरे" on calligraphy was organized on Saturday, 7<sup>th</sup> December 2013. Mr. Ram Kasture, Proprietor of "वेदाक्षरे" Art Gallery, a well known artist in calligraphy explained the importance of legible handwriting for an artist with his power point presentation. He displayed "वेदातील ऋचांचा अर्थ".

This year Cultural Association organized the "Dance Workshop", "HIP-HOP -Salsa" on Saturday, 14<sup>th</sup> December 2013. Mr. Rajdeep Pilawan, Managing Director of Dance Villa, an architect by profession, along with his colleague Ms. Priyanka Nimkar, Mr. Abhijit Pol and Ms. Sophiya Koli (Student of BNB college) conducted the workshop. After the brief introduction regarding the dance form students were taken to the Patanjali Yoga Kendra for practical session. Mr. Rajdeep's intention for teaching the new dance form was to spread International Latin dance. He taught the steps so passionately that even non dancers got into the mood to groove. About 750 students and 20 teachers participated in the three hours



workshop.

The cultural association organized the helpful workshop on Drawing & Painting (Fine Arts) on Thursday, 19<sup>th</sup> December 2013 at Zoology Department . Swapnil Padhye from T.Y.B.Sc.(I.T.) of our own college gave valuable tips to draw the poster and also explained how to paint the same poster with different colors. Near about 35 students from Junior & Degree College participated in this workshop.

As a part of Aakanksha various indoor events such as Rangoli, Bridal Make up, Mehendi, Tattoo Making, Flower Arrangement, Vaggi Art, Poster Paintnig, Cartoon Drawing, Photography, Love letter writing, Nail Art etc. were organized. The judges for these competitions were Mrs. Charulata Deshmukh, Incharge Physics Department and Mrs Ishita SenGupta, Teacher in English (Dnyansadhana College, Thane), Mrs. Jayshree Solenki & Mrs. Preet Tuli, Proprietor, Beauty Parlor, Thane and Dr.Moses Kolet from our own college.

Outdoor activities of Akanksha were formally inaugurated by Mrs. Gauri Subramanian, Head Physics Department, Menon College, Bhandup and Mr. Narayan Barse, Librarian, from Joshi Bedekar College, Thane on 23<sup>rd</sup> December 2013. The first event was personality contest. Out of 150 students Mr. Satish Shinde from TYBSc was selected as “Mr. Bandodkar” where as Miss. Manali Kunte from TYBSc “Miss.Bandodkar” through this contest. Mr. Narayan Barse and Mrs. Gauri Subramaniam were the judges for this event. This programme was compared by Mr. Frhan Ansari and Ms. Pranali Shetty.

Personality contest was followed by Acting chi Factory. Prof. Anil Bhabar, from Joshi Bedekar College, Thane was the judge for this competition. Out of 20 students Mr. Yadav and Group won the first prize in this

competition. On the same day group dance competition also took place. About 61 students gave their performances before a large crowd of students, teaching and non teaching staff. Mrs. Neha Dixit, Owner of Dance Academy in Mulund and Mrs. Shilpa, Working as a Dance Teacher in Nalanda School, Thane were judges for this competition. The first prize was awarded to Miss. Chetana and Group while phoenix group and Mr. Kush Kode and group own second and third prize respectively.

On 24<sup>th</sup> December 2013 the first event was light vocal singing competition. About 22 students participated in Singing Competition. Mrs. Kirti Agashe, ME (Electronics), Head of Electronic Department, VPM Polytechnic, Thane was the judge for this event. Mr. Rohit Thakur from FYJC secured the first prize in Light Vocal solo and Anay Mali and Rohit Thakur from FYJC secured first prize in duet singing competition. Special performance was given by Prof. Prakash Mali through his song “अगं मैना तू रुसवा सोड ना”. The audience literally rocked due to his electrifying performance.

Solo & duet competition started late in the afternoon. 38 groups participated in this competition. Judges were Mrs. Neha Dixit & Mrs. Shilpa. Miss. Spohiya Koli, from SYBSc secured the first prize in solo and Mr. Rupesh Farade and his partner secured the first prize in duet dance competition. Our beloved Principal Dr.Madhuri Pejaver madam along with Prof. Prakash Mali, Cultural Coordinator and Ms. Sonal Mathias from Biotechnology also presented an exclusive performance on traditional folk lore which is a form of “Garba” “Rangilo Maro Dholna”. The most awaited event “Fashion Show”started early evening. Total 104 students participated in this event. “Empower Girls” selected as best group. Ms. Rohini Singh won the best choreographer prize

while Mr. Surendra Vishwakarma was selected as best model (Male) and Ms. Soniya Benjamin selected as best model (female) in this competition. The judges were Mr. Nitin Pagi, M.Com, Assistant Professor, & Mrs. Urmila Gawade, M.Com., B.Ed., pursuing MBA working BMS department from Joshi Bedekar College. After this event Judges, teaching and non teaching staff, members and volunteers of Cultural Association did the ramp walking. Students were highly excited to watch their teachers walking on the ramp.

From our college around 24 students participated in “Gandharva” organized by Joshi

Bedekar College, Thane. Our college secured First prize in Treasure Hunt and Fashion Show event. Mr. Nikhil Thombre was selected as best choreographer and Ms. Sharddha Khopade as Ms. Gandharva . Ms. Mrudula Sawant & Group won the first prize in shape up event and Mr. Rushikesh Mulye won the Second prize in Just a Mint competition & Ms. Raghavi Murai won the third prize in mask panting. Our cultural coordinator Prof. Prakash Mali won the third prize in singing competition organized for teachers in Gandharva festival.

***Prof. Prakash Mali,***

Co-ordinator, Cultural Association

## ALUMNI ASSOCIATION: ANUBANDHA

Alumni Association (Anubandha) organized a Get-together of our past students on 11<sup>th</sup> Jan 2014 at 4.00 p.m. in Patanjali Sabhagruha. On this occasion all retired Teaching and Non-teaching Staff were also invited. All the alumni were welcomed with a purple friendship band- purple color representing B.N. BANDODKAR COLLEGE OF SCIENCE on the VPM Group of institutes. The Alumni Association: Anubandha hosted an audience of 160.

The inauguration of the programme was done by lightening the lamp and invoking Goddess Saraswati.

Saraswati vandana was followed by the College song which was sung by Prof.(Mrs).Sonal Mathias and Prof. Ashutosh Joshi. The college song has been written by our past student and present Vice-Principal Dr. R.P.Athalye.

Dr.(Mrs.) Kalpita Mulye, the compere for the evening invited Dr.(Mrs.) M.K.Pejaver to enlighten the audience over the College's progress and to interact with the audience.

Employment cell representative and

college counselor, Mrs. Aditi Deuskar, also made an appeal to the alumni to come forward and reach out to the present students through various means like short term courses, campus placements and interactive sessions.

Past Students of various batches were present. One of our Alumni from our first degree college batch, Mrs.Jayashree Dharmadhikari (Chemistry) presented a beautiful poem reflecting her thoughts about the college. This encouraged other students to come ahead and share their views about the college. Many past students came and thanked the college for the contribution that it made to their career and success in life

Dr.R.P.Athalye, our Vice Principal also shared his view.

The vote of thanks was given by Mrs.Kadambari Manjrekar- Librarian.

The alumni left with a small thank u card given to them by the college and only after relishing the snacks arranged for them.

***Mrs. Kadambari Manjrekar,***

Librarian

## CHEMISTRY CLUB ACTIVITIES

### I) 17/08/2013

Chief Guest - **Dr. Shivani Dhage**  
(Deputy Director NEERI- Mumbai)

Delivered lecture on :

Environmental protection & challenges in sustainable development.

Highlights of Lecture

- 1) Current Status Of Environmental Pollution.
- 2) Need and Significance of Environmental Pollution.
- 3) Common Practices of Environmental Safety.

- 4) Role of Chemistry In Protection And Development Of Environment.

### II) 11/01/2014

Workshop conducted on

'Basics of Spectroscopic Analysis' for MSc & PhD students

Lecture delivered by **Shri. Ram Yadav**

Highlights of Lecture

- 1) Calculations in UV-Visible Spectroscopy
- 2) Calculations in IR Spectroscopy.
- 3) Prediction of structure of organic compounds using UV, IR and MS data.

**Dr. M. V. Rathnam**

Co-ordinator

## HIKING AND TREKKING COMMITTEE

Hike to Kalsubai (Highest peak in Sahyadri) was arranged by hiking and trekking committee on Tuesday 18th and Wednesday 19th February 2014. 12 teachers participated in the trekking programme.

The group left Thane on 18<sup>th</sup> Feb. 2014 in the evening at 5:00 p.m. for Kasara. From Kasara station members travelled by jeep and reached Bari (Base camp) at about 9:30 p.m. The arrangements for the night stay for the teachers were made by Mr. Vilas Lote, which was sufficient and very much satisfactory. After dinner by around 10:30 p.m. all teachers visited the marriage celebration in the neighborhood. Before going to bed at 11:30 p.m. the members enjoyed campfire.

Next day morning on 19<sup>th</sup> Feb. 2014 all teachers woke up at 5:00a.m and got ready for the climb by 6:30a.m. After having a cup of tea and biscuits, the onward journey started by

6:45 a.m. Enroute to Kalsubai, we visited the 'Devi Temple' near the base. We were able to reach the peak of Kalsubai by 10:15 a.m. after ascending for nearly 3 ½ hrs. From the peak, the view was fantastic. We could see the entire stretch of Bhandardara basin and mountain peaks of forts like Alang, Kulang, Mandan and Ratangad. After some photography session, we had a brief stopover for refreshment. Teachers were able to return to Bari base camp by 2.00 p.m. Everybody was tired and took rest for nearly half an hour. The lunch was home cooked food prepared by the villagers. We started back from Bari at 3.30p.m. and reached Kasara by 5.00p.m. and took local train to Thane. We were back at Thane station by 7.00p.m.

Though the hike was little tiring, it was a wonderful and breathtaking experience.

**Mr. S. B. Bhusara**

Co-ordinator



## DLLE REPORT 2013- 2014

1. The first DLLE meeting was held in DLLE office at churchgate. One teacher coordinator and three students managers attended the meeting held on August 3<sup>rd</sup> 2013 from 10.00am to 3.00pm

2. After completing the enrolment, meeting of enrolled students for the same was held in college on 14<sup>th</sup> October 2013.

3. 102 students enrolled for the programme No. of girl students 86, No. of boys students 16.

4. The programmes undertaken are( a) social status of women SWS (b) career project CP (c) Annapurna yojna APY.

5. Other programmes (Objective) were for entrepreneur skill development such as mehendi, hairstyle and instant food, chocolate making, imitation jewelry,  
However students enrolled only for the instant food & chocolate and imitation jewellery.

a. **27<sup>TH</sup> OCT. 13 TO 29<sup>TH</sup> OCT. 13**  
**four Hrs/day imitation**  
**jewellery no of girl**  
**participants were 12.**  
**Resource person was DLLE**

student of T.Y.B.Sc. Botany  
Harshada Jadhav

b. Instant food and chocolate (25<sup>th</sup> october for 6 hrs duration) No. of boy student 1 and One male staff member from physics department ,no. of girl students participants were 14.

Resource person was myself  
and DLLE student Mrs  
Deepti pariya T.Y.B.Sc.  
Statistics.

Feed back was taken from the students.

c. Earthen pot painting is done by girl students and pot were sold. Almost 70 pots were sold of various sizes.

17 Students participated in UDAAN intercollegiate festival at C.K.T. college Panvel on 3<sup>rd</sup> February 2014 and presented skit/ street play.

***Dr. Vinda Manjramkar***  
Co-ordinator

## COLLEGE - SCHOOL COMPLEX AND SCIENCE SQUARE

In College – School complex programme students of nearby schools are invited in our campus to help them in their environment education related activities. Many of these students receive prizes and medals at State and National levels.

This year few of the school students who got selected in first and second stage of Jr. and Sr. young Scientist Examinations conducted by Homi Bhaba Centre, were guided for their viva and project discussion in the first week of February on 7<sup>th</sup> February 2013 in the department of physics at 3.00pm.

We have entered the 9<sup>th</sup> year of our Mini research project under Science Square and we have found our students participating with renewed vigor into a number of science projects for various competitions and seminars. Our students took up different projects and successfully completed the same. The students were guided by their guiding

teachers in selecting the topic and completing the projects within the stipulated time. Finally we have presented these projects in the form of a report. This year students have submitted 10 projects from different disciplines viz. Botany, Zoology, Chemistry, Physics, Mathematics and Foundation Course. Some of these projects were presented for competitions, some were part of funded projects, while some were to create awareness among the students.

On the occasion of the National science day, 28<sup>th</sup> Feb 2013, poster presentation was organized for Mini research projects. 40 students participated and 7 projects completed under science square programme were displayed. 17 teaching staff members and 15 non teaching members were present for this event.

**Dr. Pooja vinod Jagasia**

Co-ordinator

### हिंदी दिवस

१४ सितंबर २०१३ को अपने महाविद्यालय में हिंदी दिवस बड़े पैमाने पे मनाया गया। विद्यार्थियोंने खुद की रचना, कविता प्रस्तुत की तथा हिंदी दिवस का महत्व बताते हुए नृत्याविष्कार के माध्यम से अनेकता में एकता का संदेश दिया। इस कार्यक्रम में मुख्य अतिथी एम.टी.एन.एल. के प्रबंधक श्री.रामप्यारे सिंह रघुवंशी थे। उन्होंने विद्यार्थियों के कला गुणों को सराहा और हिंदी, हमारी राष्ट्रभाषा को समृद्ध करने का आवाहन किया। इस कार्यक्रम में लगभग ३५० विद्यार्थी तथा अध्यापक उपस्थित थे।

प्रा. अनिल आठवले (हिंदी विभाग)

### राष्ट्रीय पर्यावरण बौद्धिक संशोधन परिक्षा २०१३

ही परीक्षा राष्ट्रीय पातळीवर घेतली जाते. प्रथम परीक्षेत १२ वी चा विद्यार्थी कु. गायकवाड याला सुवर्ण पदक मिळाले तसेच १५० विद्यार्थ्यांना प्रमाणपत्र देण्यात आले. विद्यार्थ्यांमध्ये पर्यावरणासंबंधी जागृती करणे हा या परीक्षेचा हेतू आहे.

प्रा. अनिल आठवले (पर्यावरण शिक्षण विभाग)

## जागर जाणीवांचा अभियान - वर्षवृत

जागर जाणीवांचा हा एक राज्य शासनाचा दोन वर्षांपासूनचा उपक्रम, एक अभियान. सर्व संलग्नित महाविद्यालये यामध्ये सहभागी आहेत. स्त्री-पुरुष समानता व आधुनिक समाजात स्त्रीशक्ती व स्त्री अस्मिता अशांसारख्या संवेदनशील विषयांशी बांधिलकी मानणारे हे अभियान. समाजात घडणाऱ्या काही घटनास्पद घटनांच्या पार्श्वभूमीवर जनमानसात जागृती निर्माण करत राहणे या अभियानात अपेक्षित आहे. २०१२-१३ च्या शैक्षणिक वर्षाकरीता आपल्या महाविद्यालयाला जिल्हा स्तरीय द्वितीय पारितोषिक मिळाले आणि याही वर्षी विद्यार्थ्यांकरीता खुपच सकस कार्यक्रमांची आखणी झाली.

पहिल्या सत्राच्या आरंभी म्हणजे २२ जुलै २०१३ रोजी या अभियानाला सुरुवात झाली. यात खालीलप्रमाणे कार्यक्रम आयोजित केले.

१) सकाळ समुहाचे संपादक व साहित्य संमेलनाध्यक्ष श्री.उत्तम कांबळे यांच्या भाषणाने अभियानाचे उद्घाटन झाले. आपल्या जाणीवा जर प्रगल्भ झाल्या नाहीत. तर आपला रोबोट व्हायला वेळ लागणार नाही. असा इशारा देत श्री. उत्तम कांबळे यांनी आजच्या तरुण पिढीला विचार करायला प्रवृत्त केले.

२) दुसरा कार्यक्रम म्हणजे महाविद्यालयाच्या प्राचार्या व मुंबई विद्यापीठाच्या विज्ञान विभागाच्या अधिष्ठाता डॉ.माधुरी पेजावर यांचे भाषण “आपण पाषाण युगाकडे वाटचाल करित नाही ना?” असा प्रश्न विचारून त्यांनी जाणीवा उत्क्रांतीच्या विषयाची विश्लेषणात्मक मांडणी करित विद्यार्थ्यांचे प्रबोधन केले.

३) आपत्कालीन परिस्थितीशी कसा मुकाबला करावा याबद्दल ठाणे महानगरपालिकेचे आपातकालीन विभाग कक्षाचे डॉ.जयदिप यांचे

व्याख्यान ठेवण्यात आले. त्याचबरोबर एक दिवशीय कार्यशाळेचे आयोजन ही केले गेले. राष्ट्रीय सेवा योजना व जागर जाणीवांचा यांच्या संयुक्त विद्यमाने हा कार्यक्रम आयोजित केला गेला. आणीबाणीच्या परिस्थितीला कसे सामोरे जायचे याबद्दल विद्यार्थ्यांचे उद्बोधन करण्यात आले.

४) अंधश्रद्धा निर्मुलन समिती व जागर जाणीवांचा यांच्या संयुक्त विद्यमाने अॅड.मुक्ता दाभोळकर यांचे मुक्त चिंतन सादर करण्यात आले. यात डॉ.दाभोळकरांचे खुनी अजुन सापडत कसे नाहीत तसेच हातचलाखी व बुवाबाजी यातून घडणाऱ्या घटना व गुन्हे यांची चर्चा करण्यात आली. सर्व विद्यार्थ्यांनी या कार्यक्रमाला भरभरून प्रतिसाद दिला.

५) कर्करोगाशी मुकाबला या विषयावर डॉ.चेतना बक्षी यांचे भाषण आयोजित करण्यात आले. त्यांनी कर्करोगावरील समज-गैरसमज यावर भाष्य करित कर्करोगासंबंधी कशी खबरदारी घ्यावी? याचे विवेचन केले त्याचप्रमाणे व्यसनाधीनतेमुळे व चुकीच्या खाण्यापिण्याच्या सवयीमुळे कर्करोगाचा धोका जास्त असतो असे सांगितले.

६) तसेच विविध जनजागरणाचे कार्यक्रम आयोजित करण्यात आले. उदाहरणार्थ फोर्टीस हॉस्पिटलच्या संयुक्त विद्यमाने काढलेला थिंक पिंक वॉकथॉन, निर्भया रॅलीचे आयोजन तसेच व्यसनमुक्ती आंदोलन, बेटी बचाओ आंदोलन, विविध पथनाट्य, स्त्री भ्रूण हत्या, छेडछाड प्रकरण, एक तफ्ती प्रेमातून होणाऱ्या गुन्ह्यांसंदर्भात जनजागरण आदी मोहिमा आयोजित करण्यात आल्या.

प्रा.अनिल आठवले



१ जानेवाही २०१३ ते ३१ डिसेंबर २०१३  
या कालावधीत सेवा निवृत्त झालेले  
शिक्षक व शिक्षकेतर सहकाही.

नाव	पदनाम	सेवा निवृत्ती दिनांक
१) श्री. हरिश्चंद्र शिवा नाईक	प्रयोगशाळा परिचर	३१-१-२०१३
२) श्री. शिवाजी शंकर निकम	प्रयोगशाळा परिचर	३१-१-२०१३
३) श्री. सुभाष रामचंद्र सोमण	कार्यालय अधिक्षक	३०-४-२०१३
४) श्री. एकनाथ लक्ष्मण पार्सेकर	प्रयोगशाळा परिचर	३०-६-२०१३
५) श्री. मधुकर बापू शेलवले	प्रयोगशाळा परिचर	३१-७-२०१३
६) श्री. पांडूरंग रत्नू खापरे	प्रयोगशाळा परिचर	१७-१०-२०१३ (देवाज्ञा)
७) श्री. गणपती पेरु नाईक	प्रयोगशाळा परिचर	३१-१२-२०१३







श्री.अंगद म्हसकर व इतर परिक्षक (युथ फेस्टिवल).



परिक्षकांकडून पारितोषिक स्विकारताना (युथ फेस्टिवल).



परिक्षकांचा सन्मान (युथ फेस्टिवल).



पोस्टर मेकिंग (युथ फेस्टिवल).



वक्तृत्व स्पर्धा (युथ फेस्टिवल).



नाव नोंदणी (युथ फेस्टिवल).



भास्कराचार्य  
(सौजन्य - राणी साळुंखे M.Sc.II)



युथ फेस्टिवल स्पर्धा.



रांगोळी (युथ फेस्टिवल).



