

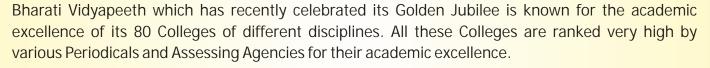








Message



I am particularly very proud of the three Polytechnic Colleges which are being run by Bharati Vidyapeeth. All of them are known for the high academic traditions which they have nurtured. Our Polytechnic College in Navi Mumbai is one of the most preferred Colleges for admissions by the students within the jurisdiction of Maharashtra State Board of Technical Education take this opportunity to offer my hearty congratulations to the Principal and his colleagues.

I am happy to know that the College is publishing its annual number. The College magazine in my opinion is an important document which in the years to come becomes a source of historical information about the College. It also gives opportunity to the students to give expression to the literary impulses.

My best wishes for the College magazine, the College, the Principal, the faculty and the students.

Dr. Vishwajit Kadam





Prof. Dr. Shivajirao Kadam Chancellor, Bharati Vidyapeeth University, Pune

Message

It gives me immense pleasure to say a few words to the magazine 'PRAYAAS' of Bharati Vidyapeeth Institute of Technology, Navi Mumbai, exclusively meant for churning out the latent literary potential of the students.

To equip the students for their all round development through education is our cherished motto. Today education means much more than merely acquiring knowledge. The process of education involves acquisition of knowledge and skills, building up of strong character and enhancing employability of the students.

Bharati Vidyapeeth runs 3 Polytechnic Colleges and all of them are known for their academic excellence. This Polytechnic College has created a respectable space for itself among the institutions of Pharmacy Education under Maharashtra State Board of Technical Education.

I believe this publication of this magazine will provide further stimulus, both to the students and teachers to prove their mettle.

I have gone through the earlier issues of this magazine and I remember they have been indeed very remarkable. I wish this one also will be of the same quality. I congratulate the Principal, faculty and the students for sustained interest in publication of this magazine. My best wishes for them for now and forever.

Dr. Shivajirao Kadam





Dr. V.J. Kadam Director,B.V. Educational Complex, Navi Mumbai

<u>Message</u>

Bharati Vidyapeeth, Navi Mumbai has a group of institutes in various streams like Management, Dental, Engineering, Polytechnic, Pharmacy, Architecture, Hotel Management, and Schools, all doing excellently in their streams, keeping their mission in their minds and their commitment to the society and nation.

Bharati Vidyapeeth Institute of Technology, Kharghar, Navi Mumbai has excelled in teaching and learning due to continuous efforts of faculty and students. | appreciate that the students are keeping abreast with curriculum and maintaining pace with present day challenges of personal and social development. Apart from academic activities, co-curricular activities, sports, cultural and social-service activities form important parts of their life.

I am happy to know that BVIT is publishing its annual magazine Prayaas this year too. The entire team deserves appreciation for their creativity, ingenuity and dedication.

My best wishes to Prayaas and all related to the magazine.

Dr. V. J. Kadam

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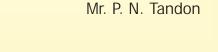
Mr. P. N. Tandon Principal, BVIT

Message

Bharati Vidyapeeth Institute of Technology, Navi Mumbai aims at preparing students to face all challenges in life and reach the culmination of success. Our excellence in academics is the result of the diligence of the students consorted with the dedication of the teachers. The students not only excel in academics but also bring laurels to the college through their successful performance in co-curricular activities and sports. Our Institute conducted the State Level Technical Quiz Competition for two course Computer Technology & Chemical Engineering & our students got first prizes in both the events.

This year our students here bagged prizes at zonal Inter Diploma Engineering Sports Tournament and State Level Diploma Engineering Sports Tournaments and Received Gold & Silver Medal in State Level Swimming Competition.

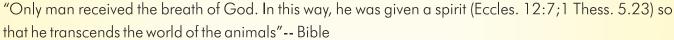
It is my pleasure and pride to present this edition of PRAYAS-20 which is feasible due to the contributions and active participation of the students and the ceaseless efforts put in by the members of the editorial board. I hope that my readers will enjoy reading the magazine.





Form the Editor's Desk





For millions of years world changed very slowly, and even man evolved at a pace in

keepingup with that of the rest of the Earth's creations. God's gift to mankind, "wisdom" facilitated him to search solutions to problems, discover how the universe works and invent things to perform useful tasks, and has accelerated the pace of change many fold. Today we change our capabilities and environment at such a rate that for the moment it's difficult to predict the kind of world in which our future generations would live in the centuries to come. It is no exaggeration to claim that

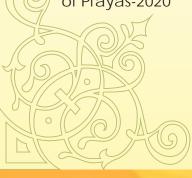
technology is absolutely crucial in improving the quality of our life.

Our Institute has always given utmost importance to the overall development of the students by bringing out their innate talents, in all possible ways. Prayaas-20 is such an initiative towards encouraging the young minds to present their thoughts, ideas and views highlighting the most influential aspects that the students are attracted to in this Universe. Here are some technical papers exhibiting their technical inclinations and expertise describing the recent advances and possible future developments in the field of Communication, Information technology, Internet Security, Industrial Automation, Energy Conservation and Planning, Environmental threats and ways to combat them and so on.......

Explore and exploit.....

I thank all the students who have spent their valuable time and assistance in the making of Prayas-2020

Mr. Mohan Sawarkar



Editorial Committee

Editor : Mr. Mohan Sawarkar

Technical Desk : Mrs. Rajitha T. B.

English Desk : Mr. Vinod Waghmare

Marathi Desk : Mrs. Anagha Bade

Hindi Desk : Mr. Mohan Sawarkar



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We Strive, We Win

WINNERS of BVIT in IEDSSA MAHARASHTRA STATE ZONAL TOURNAMENT 2019-20 Kudos to BVITstudents for their victory in various sports events in IEDSSA Tournament



BVIT RUNNERUP IN BADMINTON ORGANISED BY IEDSSA MAHARASHTRA STATE ZONAL TOURNAMENT 2019-20



BYT WINNER IN VOLLEYBALL ORGANISED BY IEDSSA MAHARASHTRA STATE ZONAL TOURNAMENT 2019-20

Winners of IEDSSA

WINNERS of BVIT in IEDSSA MAHARASHTRA STATE ZONAL TOURNAMENT 2019-20 Kudos to BVITstudents for their victory in various sports events in IEDSSA Tournament



BVIT WINNER IN ATHELETICS ORGANISED BY IEDSSA MAHARASHTRA STATE ZONAL TOURNAMENT 2019-20



BVIT WINNER IN KABBADI ORGANISED BY IEDSSA MAHARASHTRA STATE ZONAL TOURNAMENT 2019-20

Meritorious students

Department	First Year	Second Year	Third Year
Computer Engg.	Prathamesh Patil	Sakshi Nagaonkar	Pratiksha Salunkhe
Information Tech.	Apurva Lakeshri	Aakash Ghadge	Rushikesh Bobade
Mechanical Engg.	Moiz Hassan	Niranjan Kolur	Niranjan Kolur
Elec. & Telecom	Shivam Terde	Pankaj Nalawade	Vignesh Venkatachalam
	& Kaushik Thale		
Chemical Engg.	Avanish Mishra	Samiksha Patil	Pratik Parate
Electrical Engg.	Abhishek Chavan	Vipul Gharat	Nil
Civil Engineering	Atharva Mahale	Sahil Jadhav	Nil



Events Organized

International Yoga Day - 2019

Ainternational Day of Yoga, or Yoga Day, is celebrated annually on 21 June since its inception in 2015. Sam Kutesa, President of UN General Assembly, announced to celebrate the International Yoga Day on June 21 and more than 170 countries supported the Yoga Day proposal. So International Day for Yoga was declared unanimously by the United Nations General Assembly.

Although Expert Lectures and Workshops on Yoga were conducted in Bharati Vidyapeeth, Navi Mumbai earlier also, but since 2015 International Yoga Day is celebrated every year. The fifth "International Yoga Day" was celebrated at Bharati Vidyapeeth's Education complex, Navi Mumbai on 21st June 2019. Experts from Shri Ambika Yoga Kutir, C.B.D branch Navi Mumbai stressed the importance of Yoga as a means for healthy mind and body. Around 250 participants comprising of Principals and faculty of various Institutes of Bharati Vidyapeeth performed Yoga exercises under their guidance. The session lasted for one and half hours and concluded around 11 am.











Events Organized

Entrepreneurship Awareness Camp (EAC)

An Entrepreneurship Awareness Camp (EAC) was held at BVIT, Navi Mumbai from 28th to 30th August 2019 under the aegis of National Science & Technology Entrepreneurship Development Board, Govt. Of India, New Delhi. Eminent entrepreneurs like Mr. Hemant Desai, Mr. Abhijit Desai, Mrs. Purvi Pujari, Mr. Sagar Chandni, Mr. Aslam Logde, Mr. Santosh Bajaj and Mr. Vinay Mehrotra guided students in various topics related with Entrepreneurship. Industrial visit to Sharplex Filters and SQUAD Infotech Pvt Ltd was also arranged. 76 final year students of various programme attended the three days camp and they were given the participation certificates.







Saving life in emergency during cardiac arrest-Training session

Today was a well conducted COLS seminar with 95 College students and 10 teachers of Bharati Vidyapeeth, Institute of Technology, CBD attending the session. This practical training session is aimed at saving some ones life in emergency during cardiac arrest.

This was simple, useful and much needed in current times.

This was jointly arranged by. RCNM HILLSIDE and RCNM SEASIDE clubs.

A big thank you Dr. Surekha Patil madam, Dr. Ashwin and team supported by Bharti Vidyapeeth,

Special Thanks to Rtn Tondon Sir for making this happen.

A much required Smart project under the leadership of Veena madam.

Thanks to President Seaside Rtn Stuti,

RCNMHILLSIDE Rotarian Krishna Manjare, PP Laxman Marke, Rotarians Patro, Joydip, Ravindra Deshpande, Arya, Haresh Shaha and staff of Bharti Vidyapeeth.





Events Organized

















Kala Krida Mahotsav

BVIT Navi Mumbai organized the Kala Krida Mahotsav, competitions for various schools of Navi Mumbai on the occasion of the birthday of hon. Dr. Vishwajeet Kadam. Many competetions like Cricket, Football, Kho-kho, Kabaddi, Tug of war, Rangoli Photograph yetc. were conducted. Dr. Vilasraoji Kadam, Director B.V.E.C. Navi Mumbai inaugurated the program. Mr. P. N. Tandon Principal BVIT and sports director Mr. Deshmukh were also present.









Swachh Bharat Abhiyan:

It is a national campaign by the Government of India. On 2nd October 2019, this Mission was launched throughout length and breadth of the country as a national movement. BVIT initiated the cleanliness drive at institute campus, by inviting people to participate in the drive and to be a part of this national movement.



Annual day- Bahaar

The Institute organized BAHAAR-20, annual gathering on 9th March 2020, as a way to celebrate the cultural richness amongst the staff and students. The cultural day was inaugurated by our honorable Principal Prof. P.N. Tandon who addressed the students and staff with an inspiring speech on the diversified culture of India and the necessity of arranging such events. Students enthusiastically participated in various programs conducted under two categories, Art gallery and Cultural. Highlights of Art gallery events were, drawing competition, photography, painting, best-out-of- waste, rangoli and mehandi design. Attractions of cultural programs were, singing competition, drama, fashion show, single dance and group dance.

Fun games













Abhishek Bhoir SYEJ

TREASure hunt









Art Gallery

Art gallery, an art competition for the students of the Institute was held along with the cultural competitions on 9th March 2019. Students enthusiastically participated in various events like, painting, Rangoli, photography, mehandi design, cartoon, best out of waste, Sketches and Cartoon competitions. The teachers and students actively participated for making the event a grand success.









TEACHING STAFF

Mr. P. N. Tandon	Yadav Suhas Kakaso	Wankhade Prashant Rambhau
Cissy Shaji	Deshmukh Wrushali Dinkar	Patil Amit Janardan
Deepa Nair P.	Sawant /Kakade Kavita	Sanap Sarika Bhagwan
Dr. Nimkar Samir C.	Gaur Lovely Maheshchandra	Kantute Sharadchandra Vijayrao
Patil Swati Bhushan (Bhosale)	Tabhane Sukheshini Shivshankar	Dongare Ramesh Bhalchandra
Mhatre Mithun Vishnu	Ghorpade Rajendra Prakash	Adsul Baba Govinda
Chavan Vijaya	Rajitha T.B.	Kadam Sachin Shivaji
Nimkarde Suvarna	Arrora Ajitsing Anupsing	Mr. Waghmare Vinod Shankar
Gaikwad Shobhana Avinash	Sawarkar Mohan Vinayak	Patil Milind B.
Mali Mohan K.	Pawar Ranjeet Ramesh	Smt. Salve Maya Sitaram
Kamble Pournima	Kale Satish D.	Dr. Kirdat Pandurang Ananda
Rahul Uttamrao Patil	Shinde Sandeep Arvind	Mehrotra Vinai
Rajput Punam Udaysintgh	Jagtap Asmita Ankushrao	Bade Anagha.
Sujata Shankar Gawade	Samir Vilas Mulik	Puranik Charuta
Ukil Madhumita	Tambewagh Pratibha Amol	Patil Ujwala Kishor
Sutar Shahaji Sambhaji	Patil Jaypal K.	Minu T. Babu
Patil Yamini Mahdva	Choure Satchidanand Sudamrao	Patil Sayali / Lokare Savita
Mulla Aphasana Shahanvaj	Kadam Santosh Vithal	Chintanwar Priya Kisan
Suryasevak Singh Ramdhani	Chavan Shreya Sandesh	Wairale Snehal R.
Inampudi Shrilaksmi	Raut Padmakar Tukaram	Zende Chhaya Jagannath
Deshmukh Shital Shashikant	Mane Uvaraj Vilasrao	



NON-TEACHING STAFF

Mr. Patil B.H.Mr. Patil Chandrakant R.Mrs.Shikalgar Shamshad RamzanMr. Pawar Uttam DhondiramMr. Mohite Shashikant SantramMr. Pawar Gajanan RamchandraMr. Yadav Ravikiran D.Mr. Amol Rangrao YadavMr. Dhane KiranMr. Khamkar Avinash PandurangMr. Sandip Yashwant UthaleMr. Pol Suhas BhagavatMr. Mane Sanjay ShankarMr. Amol Ashok PatilMr. Jadhav Dattatray RangraoMr. Mahadik Dilip GanpatMr. Amit Shivaji GavaliMr. Jadhav Jaykar ShamraoMr. Kulkarni Pradeep JagannathMr. Dhanaji MetkariMr. Londhe Bhiku BajarangMr. Hajare Mahendra BhikuMr. Pawar Rahul ShamraoMr. Jadhav Kailas SambhajiMr. Jadhav Sambhaji MadanDr. Sunil MandaleMr. Jankar Vinod TukaramMr. Torne Pradeep ShamraoMr. Patil Maruti Hari.Mr. Mahadik Anna NamdevMr. Londhe Shivaji TanajiMr. Zambre Arun ShankarMr. Suryawanshi Dattatray PopatMr. Lavangare Vijay ParshuramMr. Kandhare Sanjay Dattatray.Mr. Shaukat PatelMr. Tambewagh Sachin LaxmanMr. Harblas Hajararam RatanMr. Shinde Amol BabasoMr. Gaikwad Sadanandrao S.Mr. More Jagannath Nivrutti.Mr. Dhane Sachin AnandaMr. Suryawanshi Hanmant BalasoMr. Shinde Jaywant BhimraoMr. Kumhar Shamrao PrakashMr. Sandip Dilipsinh DafaleMr. Pawar Rajendra Krishna.Mr. Shinde Shkhadeo GovindMr. Pawar Ajit DinkarMr. Mohite Mahadev Anandrao.Mr. Shinde Vishal SubraoMiss Shirguppikar Jyoti ManoharMr. Chavan Chhagan KashinathMrs. Rajeshree YadavMr. Mane Ranjeet VishnuMr. Ghadage Adhi			
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Mr. Mane Sanjay Shankar Mr. Amol Ashok Patil Mr. Jadhav Dattatray Rangrao Mr. Mahadik Dilip Ganpat Mr. Amit Shivaji Gavali Mr. Jadhav Jaykar Shamrao Mr. Kulkarni Pradeep Jagannath Mr. Dhanaji Metkari Mr. Londhe Bhiku Bajarang Mr. Hajare Mahendra Bhiku Mr. Pawar Rahul Shamrao Mr. Jadhav Kailas Sambhaji Mr. Jadhav Sambhaji Madan Dr. Sunil Mandale Mr. Jankar Vinod Tukaram Mr. Torne Pradeep Shamrao Mr. Patil Maruti Hari. Mr. Mahadik Anna Namdev Mr. Londhe Shivaji Tanaji Mr. Zambre Arun Shankar Mr. Suryawanshi Dattatray Popat Mr. Lavangare Vijay Parshuram Mr. Kandhare Sanjay Dattatray. Mr. Shaukat Patel Mr. Tambewagh Sachin Laxman Mr. Harblas Hajararam Ratan Mr. Shinde Amol Babaso Mr. Gaikwad Sadanandrao S. Mr. More Jagannath Nivrutti. Mr. Dhane Sachin Ananda Mr. Suryawanshi Hanmant Balaso Mr. Shinde Jaywant Bhimrao Mr. Kumhar Shamrao Prakash Mr. Sandip Dilipsinh Dafale Mr. Pawar Rajendra Krishna. Mr. Shinde Shkhadeo Govind Mr. Pawar Ajit Dinkar Mr. Mohite Mahadev Anandrao. Mr. Shinde Vishal Subrao Mr. Mane Ranjeet Vishnu Mr. Mane Pradeep Balasaheb. Mr. Vinod Ishwar Pol Mr. Yadav Dasharath Nivruti Mr. Ghadage Adhikrao Ganesh	Mr. Yadav Ravikiran D.	Mr. Amol Rangrao Yadav	Mr.Dhane Kiran
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Mr.Bodare Amol Dhondiram Miss.Patil Nitisha Sambhaji	Mr.Yadav Dasharath Nivruti	Mr. Ghadage Adhikrao Ganesh	
	Mr.Bodare Amol Dhondiram	Miss.Patil Nitisha Sambhaji	



EMERGING CARBON ABATEMENT TECHNOLOGIES FOR FOSSIL POWER GENERATION

Nidhi Bhoir-TYIF

1. Introduction

Fossil fuels currently underpin most aspects of modern life and most projections show fossil fuels continuing to dominate energy supply well into the century, to 2050 at least. However, the combustion of fossil fuels produces carbon dioxide (Co2), which is the main cause of climate change. Studies indicate that unless specific policy initiatives and measures are undertaken, global CO2 emissions will rise by an unacceptable 60% before 2030. Carbon Abatement Technologies (CAT) can be a part of the solution to climate change. Fossil-fuel based Carbon abatement technologies are a group of innovative technologies that enable the large power plants to operate with substantially reduced CO2 emissions while still making a major contribution to the security of electric supply. It improves not only the efficiency of the power plant but also contribute to a clean Environment. This paper outlines various CAT technologies especially carbon capture and Storage (CCS). It presents an extended report about Boundary Dam Power Station, which is the World's first ever large project of a fullyintegrated CCS plant, at Estevan, Saskatchwan, Canada, anticipating completion in 2015.

Carbon Abatement Technologies (CAT):

Advanced Power generation Technology Forum's (APGTF) strategy for carbon emission reduction include,

- 1) Higher efficiency conversion process
- 2) Fuel switching to lower carbon alternatives

3) Carbon Capture technologies (CCS)

CCS is a method in which the carbon in the fossil fuels is captured (as CO2) either precombustion or post-combustion and committed to long-term storage in geological formations. This approach can reduce emissions by up to 85% depending on the type of non-capture plant displaced. Even higher levels can be attained by combining CCS with co-firing with biomass.CCS is the main target for the development of CATs because of its potential for large reductions in CO2.

Carbon Capture technologies (CCS)

Carbon dioxide capture and storage is a technology with the potential to reduce the Green House Gas (GHG) problem, while allowing the continued use of fossil fuels. There are three types of carbon capture technologies which include:

- 1) POST-combustion technique
- 2) PRE-combustion technique
- 3) Oxy-fuel

We will be specifically talking about Postcombustion technique, as the world's first and largest commercial-scale CCs project is based on this technology.

Post-combustion capture:

Post-combustion capture (fig. 1) involves the separation of CO2 from flue gas. The preferred technique at present is to scrub the flue gas with a chemical solvent (usually an amine or ammonia), which reacts to form a compound with the CO2. The solvent is then heated to break the flue gas, cooled

and, for coal and oil-fired plant, treated to remove reactive impurities (eg oxides of sulphur and nitrogen, particulate material) before scrubbing down the compound and release the solvent and high purity CO2. With current processes a significant amount of energy is needed to regenerate the solvent and to compress the CO2 for transport, which reduces the net electricity output of the plant

- 1) After the fossil fuel energy source is combusted with air, the flue gas is cooled and treated to remove particulate matter, SO2, NO2 and other trace gases.
- 2) Once cooled, the gas enters a contact absorber which consists of a liquid solvent that is typically an aqueous amine solution (usually a monoethanolamine). The amine solution absorbs the CO2.
- 3) The CO2-rich solution is then sent to a stripper where the CO2-rich amine is separated into two separate gases: the pure amine gas, which is recycled back into the stripper, and a concentrated CO2 stream.
- 4) The CO2 stream is then dehydrated, compressed and transported to its final storage destination.

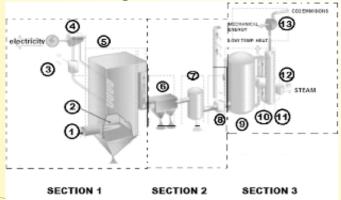


Fig. 1 Post-combustion capture

Storage Options:

The geological storage of CO2 combines a number of engineering processes, i.e.

compression, transportation via pipelines or ships and injection via wells, and a series of processes in the underground system that will progressively result in the immobilization of introduced CO2. The storage of gases in geological formations is a tried-and-tested technology with experience stretching back nearly a century. A range of options (fig.2) exist for the storage of CO2 are,

- 1) CO2 can be injected into oil producing fields to recover additional oil ('enhanced oil recovery' or EOR), or into gas fields to recover additional gas ('enhanced gas recovery' or EGR).
- 2) Alternatively, depleted hydrocarbon fields may be used simply for storage.
- 3) A third option is to inject CO2 into unmineable coal beds. CO2 may preferentially displace in-situ methane giving rise to the possibility of creating an 'enhanced coal bed methane' (ECBM) production process.
- 4) Finally, CO2 can be stored in brine-filled (saline) formations that are not suitable for drinking water extraction or other useful purposes like irrigation.

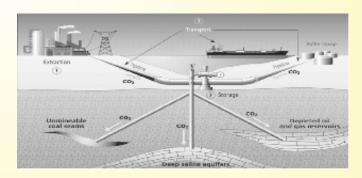


Fig.2 Storage options

SASK's BOUNDARY DAM CARBON CAPTURE PROJECT:

The Boundary Dam power station of Saskpower utility near Estevan, Saskatchewan is a CCS initiative which integrate a rebuilt coal-fired generation unit with carbon capture technology. It is the world's first and largest project of its kind.

The project is a \$1.4 billion government-industry partnership between the Government of Canada and SaskPower utility launched on 1st October 2014. This project will transform the aging Unit 3 at Boundary Dam Power Station into a reliable, long-term producer of 110 megawatts (MW) of base-load electricity and expected to reduce greenhouse gas emissions by one million tonnes of carbon dioxide (CO2) each year.

Over- view of the project

The project is divided into three parts,

- 1) Carbon Capture Test Facility.
- 2) Carbon storage and Research Centre.
- 3) Amine Chemical Laboratory.

Carbon Capture Test Facility (CCTF):

Carbon capture Test facility at Shand power station is a sister concern of Boundary Dam, developed by Sask power in collaboration with Mitsubishi Hitachi Power Systems, Ltd..this facility enables clients to evaluate the performance of their technologies in a commercial setting. The Construction began in early 2013 and was opened in June 2015. The facility is designed to provide a robust evaluation of the collection efficiency, long-term stability, operability, maintainability and reliability of aminebased, post-combustion technologies. The CCTF has been designed to accommodate a wide range of solvents. It has the capacity to add and remove process equipment, change the configuration of vessel internals, and expand the height of the key absorber vessel.

Carbon storage and Research Centre:

The storage of CO2 has been planned in two ways;

i) Aquistore

Aguistore is an independent research and monitoring project to which intends to demonstrate that storing liquid carbon dioxide (CO2) deep underground (in a brine and sandstone water formation), is a safe, workable solution to reduce greenhouse gases. A portion of the CO2 captured is transported by pipeline to Aquistore's injection point located on SaskPower property approximately 2 kilometres west of the Boundary Dam Power Station. The CO2 is injected 3.4 kilometres underground into the Deadwood Sandstone Formation which is below the Williston Basin, a sedimentary basin that is made up of many layers porous and non-porous rocks.

ii) Enhanced Oil Recovery

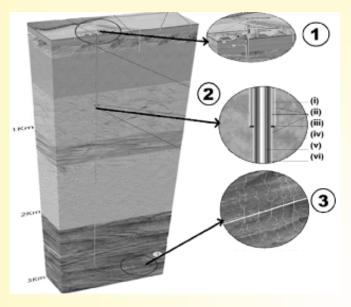
A 66 KM long pipeline transport the captured CO2 not stored in the aquistore to Weyburn Enhanced oil Recovery facility situated southern Saskatchewan, which is functional from 2000, planned for CO2 storage of Dakota Gasification Company's coal gasification plant in North Dakota. The injected CO2 has been kept in place, any recycled amounts that come up with the oil are re-injected along with the new CO2 that arrive daily.

iii) Other options

In addition to CO2, there are opportunities for the sale of other byproducts from the Project. The captured sulphur dioxide (SiO2) is converted to sulphuric acid and sold for industrial use. Fly ash, a byproduct of coal combustion, is also sold for use in ready-mix concrete, precast structures and concrete products.

Amine Laboratory:

Located in Regina, Saskatchewan, SaskPower's Amine Chemical Laboratory provides new means of analyzing environmental contaminants which may be produced as a result of carbon capture. Its main focus is to analyze environmental and occupational health and safety samples from the CCS facilities and provide a clear understanding of the emissions they produce. This ensures facilities are environmentally friendly and safe for all of



the workers.

Fig.3 Aquistore at boundary Dam

- [1] GGS CONTINUOUS MONITORING WELL.
- [2] (i) SURFACE CASTING
 - (ii) COMMON SEAL
 - (iii) SHOE
 - (iv) INTERMEDIATE CASTING
 - (v) PRODUCTION CASTING
 - (vi) PRESSURE MONITORING OF ANNULUS
- [3] FISSURES FROM HYDRAULIC FRACTURES HELD OPEN WITH GRAINS OF SAND.

Project Outcomes

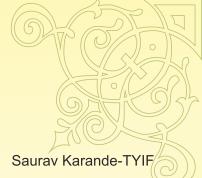
1) Produce 110 megawatts (MW) of

- power, which is approximately enough to power 100,000 Saskatchewan homes
- 2) Reduce the SO2 emissions from the coal process by 100 per cent and the CO2 by 90 per cent
- 3) Capture 1,000,000 tonnes of CO2 every year, which is the same as taking 250,000 cars off our roads.
- 4) Demonstrate the economic, technical and environmental feasibility for coal-fired power generation with CCS
- 5) Support the development of industry-wide CCS regulations and policies

Conclusion

Fossil-fuelled power generation is likely to remain the dominant means of producing electricity for the foreseeable future. As CCS is expected to make a major contribution to global emissions reductions, a significant amount of work need to be done to promote public understanding that the technologies are safe and reliable and that substantial benefit will be gained from their deployment. Information to be disseminated must be well-researched, accurate, and authentic and presented in a clear and unambiguous way. Communications must underline the principle objective such as environment friendly, efficient, safe and competitive energy economy. The Boundary Dam Integrated CCS Project of SaskPower has made Canada a global leader in carbon capture, utilization and storage technology. This project, in combination with Carbon Capture Test Facility (CCTF) and Amine laboratory is at its tipping point, in global collaboration for industrial application of Carbon Capture, Utilization and Storage (CCUS).

INTERNET OF THINGS



Introduction:

In India, the journey of E- governance started way back in mid 90's with emphasis on citizen-centric services. On 1 July 2015, under the dynamic leadership of honorable Prime Minister Narendra Damodardas Modi, Government launched a campaign "Digital India" envision to transform India into a digitally empowered society and knowledge economy. The initiative includes plans to connect rural areas with high-speed internet networks. In the wake of this growing acceptance and indulgence of computers and connected activities, this paper presents a concept related to mass connectivity of physical things through internet called "Internet of Things (IOT). It also describes about its applications, benefits and impact in society.

IOT-Concept

The term "Internet of Things or IOT" was coined by British entrepreneur Kevin Ashton in 1999. It is the network of physical objects or "things" embedded with electronics, software, sensors, and connectivity to enable objects to exchange data with the production, operator and/or other connected devices based on the infrastructure of International Telecommunication Union's Global Standards Initiative. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration between the physical world and computer-based systems, and resulting in improved efficiency, accuracy and economic benefit.

Kevin Ashton



History of the 'Internet of Things' (and people)

Now we see how it got started and who some of the important people were and projects that helped move it from its first glimpses into today's trending topic.



1832: An electromagnetic telegraph was created by Baron Schilling in Russia, and in 1833 Carl Friedrich Gauss and Wilhelm Weber invented their own code to communicate over a

distance of 1200 m within Göttingen, Germany.



1950: Alan Turing in his article Computing Machinery and Intelligence in the Oxford Mind Journal-

"It can also be maintained that it is best to provide the machine with the best sense

organs that money can buy, and then teach it to understand and speak English. This

process could follow the normal teaching of a child."



1998: inTouch a project at MIT was developed by Scott Brave, Andrew Dahley, and

Professor Hiroshi Ishii

"We then present in Touch, which applies Synchronized Distributed Physical Objects to create a "tangible telephone" for long distance haptic communication."

1999: Auto-ID Labs opens which is the research-oriented successor to the MIT Auto-ID Center, originally founded by Kevin Ashton, David Brock and Sanjay Sarma. They helped develop the Electronic Product Code or EPC, a global RFID-based item identification system intended to replace the UPC ba2002: The Ambient Orb created by David Rose and others in a spin-off from the MIT Media Lab is released into the wild (and is still on the market) with NY Times Magazine naming it as one of the Ideas of the Year. The Orb monitors the Dow Jones, personal portfolios, weather and other data sources and changes its color based on the dynamic parameters.



2002: The Ambient Orb created by David Rose and others in a spin-off from the MIT Media Lab is released into the wild (and is still on

the market) with NY Times Magazine naming it as one of the Ideas of the Year. The Orb monitors the Dow Jones, personal portfolios, weather and other data sources and changes its color based on the dynamic parameters.

2005: Ahead of its time, the Nabaztag (Now a part of Aldebaran Robotics) was originally manufactured by the company Violet and created by Rafi Haladjian and Olivier Mével. The little WiFienbabled rabbit was able to alert and speak to you about stock market reports, news headlines, alarm clock, RSS-Feeds, etc as well as connect to each other (see: Nabaztag opera). The statement was "if you can even connect rabbits, then you can connect anything".

2011: IPV6 public launch - The new protocol allows for 2128 (approximately 340 undecillion or 340, 282, 366, 920, 938, 463, 463, 374, 607, 431, 768, 211, 456) addresses or as Steven Leibson put it, "we could assign an IPV6 address to every atom on the surface of the earth, and still have enough addresses left to do another 100+earths."



COLTAN-BLOOD IN OUR HANDS

Simaran Kaur-TYIF

Introduction:

Coltan - short form for columbite-tantalite and known industrially as tantalite, is a dull black metallic ore from which the elements niobium and tantalum are extracted. The niobium-dominant mineral in coltan is columbite (after niobium's original American name, columbium), and the tantalum-dominant mineral is tantalite. It is used in many of the products you use in our everyday life. From smartphones to laptops to medical equipment, coltan is key for a range of electronic devices. However, the mineral is often the subject of controversy given that it comes from the conflict-ridden Democratic Republic of the Congo (DRC).



COLTAN ORE

Coltan - the conflict mineral

A decade ago no one except geologists had heard of tantalum or 'coltan' - an obscure mineral that is an essential ingredient in mobile phones and laptops. Then, in 2000, reports began to leak out of Congo's mines deep in the jungle where coltan was extracted in brutal conditions watched over by warlords. The United Nations sent a team to investigate, and its exposé of the relationship between violence and the exploitation of coltan and other natural resources contributed to a re-examination of scholarship on the motivations and strategies of armed groups.

The politics of coltan encompass rebel militias, transnational corporations, determined activists, Hollywood celebrities, the rise of China, and the latest iGadget. The way production and trade of

coltan is organised creates opportunities for armed groups, but the Congo wars are not solely, or even primarily, about coltan or minerals generally. Nest argues the political significance of coltan lies not in its causal link to violence, but in activists' skillful use of mobile phones as a symbol of how ordinary people and transnational corporations far from Africa are implicated in Congo's coltan industry and therefore its conflict. Nest examines the challenges coltan initiatives face in an activist 'marketplace' crowded with competing justice issues, and identifies lessons from coltan initiatives for the geopolitics of global resources more generally.

The Chart shows the Minerals Supply Chain from rebel group to retailer.

Coltan mining

The more valuable metal in the coltan ore is Tantalum (Ta), with demand having grown at around 5 per cent per annum since 1990. There was a spike in prices during the last phase of the dot com boom, which drew attention to coltan mining in eastern DRC. The mining of coltan in the Congo is often described as artisanal. Teams of a few individuals clear some jungle, dig into the soil, extracting and washing nuggets of ore from shallow deposits. These are then sold through chains of middle-men. It is a surprisingly basic process, more nineteenth century gold rush than the twenty-first century uses of the metals. When there is sufficient material it is sent to Europe or Asia by air freight, often passing through Burundi, Kenya, Rwanda and Zimbabwe, routes chosen as a result of different levels of taxes and bribes, together with the effects of smuggling and looting. Most of the trading is by confidential deals amongst private firms, with very little public disclosure.

Profit from Coltan Mining

For individuals living within the Congo, mining is the easiest source of income available, as the worker is consistent and regular, even if just for \$1/day. The tech boom caused the price of coltan to rocket to as high as US\$600 per kilogram at one point, compared to a previous value of US\$65 per kilogram, although it has settled down to around US\$100 per kilogram at the moment. A

coltan miner can earn as much as US\$200 per month, compared to a typical salary of US\$10 per month for the average Congolese worker.

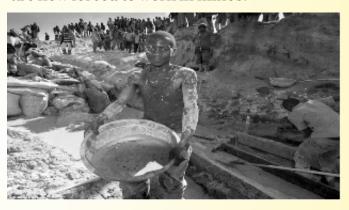
Hardship of miners

Men, women and children are said to be forced at gunpoint to mine coltan that is then shipped out of country at huge profits. "Coltan is extracted under terrible working conditions in eastern Congo,"

DanChurchAid, a Danish humanitarian nongovernment organization, reported in 2006. "The United Nation reports child labour in Africa has significantly increased in coltan miners. In some regions of the Congo, about 30 per cent of schoolehildren



are now forced to work in mines."



Coltan mine of CONGO

This miner is covered head to foot in the oreladen mud. It may seem unbelievable, but he is searching for a mineral which will power the most 21st century of items, the smartphone

Environmental and ethical issues

The coltan mining operation of the Democratic Republic of Congo is the best-known human rights violator of all the global coltan industries. The main conflict is associated with the decisions made by technological companies using coltan and their impacts to human rights. Impacts to human rights from coltan extraction and production have dictated the health, economy, and social structure of the DRC. Farmers have been forced off their land and forced to work in mine, as war has ravaged their land. Most of the men who work in the

coltan business used to be farmers and now lost their land.

In addition to the human rights issues attached to the coltan industry, the mining process itself is environmentally hazardous. Coltan, like any metal, is a toxic contaminant. Since it is usually pan-mined, the mining process and slurry from this process contaminates the water supply and is harmful to the entire ecosystem. Furthermore, the mining process poses a direct threat to the environment via the destruction of stream beds and the surrounding forest. There is nothing sustainable about this kind of mining practice, but since the industry is unregulated, nothing is being done to stop it in the developing countries.

The main area where Coltan is mined, also contains the Kahuzi Biega National Park, home of the Mountain Gorilla. In Kahuzi Biega National Park the gorilla population has been cut nearly in half, from 258 to 130 as the ground is cleared to make mining easier. Not only has this reduced the available food for the Gorillas, the poverty caused by the displacement of the local populations by the miners has lead to Gorillas being killed and their meat being sold as "bush meat" to the miners and rebel armies that control the area. Within the Dem. Rep. of Congo as a whole, the U.N. Environment Program has reported that the number of eastern lowland gorillas in eight Dem. Rep. of Congo national parks has declined by 90% over the past 5 years, and only 3,000 now remain. Due to the damage caused to the Gorilla population and their natural habitat, companies that use Coltan are now starting to demand that their Coltan only comes from legitimately mined sources and is not a byproduct of the war. Americanbased Kemet, the world's largest maker of tantalum capacitors, has asked its suppliers to certify that their coltan ore does not come from Dem. Rep. of Congo or from neighbouring countries. Such moves could lead to "Gorilla Safe " cell-phones being marketed, much in the same way that Tuna meat is now sold as "Dolphin Safe".



The miners has lead to Gorillas being killed and their meat being sold as "bush meat"

Conclusion:

The demand for coltan is not going away. As global consumers continue to crave the newest cell phone and the latest computer, high-tech companies will continue to pay top dollar for tantalum capacitors, and their suppliers will continue to take tantalum from wherever it is available. Whether an unregulated industry can effectively police itself based on good faith and written assurances is questionable. But one thing is sure: The links between the cell phones and computers we use every day and the devastation taking place now in the Congo can no longer be ignored."If we found out our suppliers were getting tantalum from the Congo, we wouldn't kick them out, that would not help," says the company's. "We would rather try to influence them" to stop doing business there.

Age of distraction

We live in curiosity all the time. It is called the 'age of information', but in another light it can be called as 'The age of distractions'. While the humanity has never actually been free from distractions such as dealing with piles of books, emails, assignments, examinations, ringing cellphones, hanging out with friends, falling in love with strangers in a few days and many more things. The more connected we get, the more we get ahead in stream of information.

We are in a battle of cross fire for getting attention and we find ourselves engaged in multiple activities.

It has become an addiction now. There's instant feedback to such activities in the form of whatsapp, facebook, twitter, blogs, forums, web,etc.

This is the reason why it is so easy getting addicted to being connected and rather getting distracted.

When we get our mails and messages, we get a positive feeling. We feel conformation of yourself worth.

It feels good to get a message from someone and thus, we get used to checking these stuff more and more frequently until this addiction is burrowed deep inside us.

We perform all these activities like we are going to be rewarded some accolades but often we realize the negative consequences much later.

We get used to socializing so much that sometimes we might forget the limit of personal stuff that should be shared on social networks. We should remember that the things we post on the internet can be used against us, to defame us.

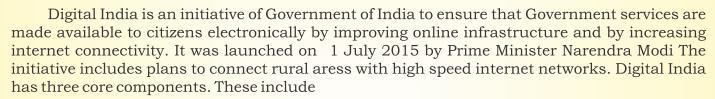
So, as there are two faces to every coin, we should try to consider both the pros and cons of social networking... And we should make an attempt to establish a balance between our social and personal lives.

From
Akash Ghadage
SYIF



Digital India





The creation of digital infrastructure

Delivering services digitally

Digital literacy

- The government of India has launched The Digital India programme with the vision to transform India into digitally empowered society and knowledge economy.
- Broadband in 2.5 lakh villages, universal phone connectivity' Net zero imports by2020, 400000 Public internet Access points, Wi-Fi in 2.5 lakh schools all universities; public Wi-Fi hotspots for citizens Digital inclusion: 1.7 Cr. Trained for IT, Telecom and electronic jobs job creation: Direct 1.7 Cr. And direct at least 8.5 Cr. E-Governance and services: Across government India to be leader in IT use in services- Health, , Education, Banking Digitally empowered citizens- public cloud, Internet access.
- The Government of India entity Bharat Broadband Network Limited with executes The National Optical Fiber Network Project will be custodian of Digital India (DI) project. BBNL had ordered United telecoms Limited to connect 250000 villages through GPON to ensurs FTTH based broadband.
- This will provide the first basic setup to achieve towords Digital India and is expected to be completed by 2017. Optical Fiber Cables have been laid out in more than 68000village panchayats

Pawan Tubhe-SYIF



Terrorism and a Tribute to Policemen'

Waiting For Another day, another year Come hand in hand and forget fear Boldly to them shall we deal Come together and terrorism we seal We are not Like those cowards Come together and win is ours They come and Attack us from the back Feeling of bravery, sure they lack They are terrorist straight form hell Many of my countrymen, to them prey fell They are people mad and bad Can't see others happy; so make them sad At least at this time we all should awake Nothing can be done when our life's at stake If nothing is done by the day Atlast we'll find no left away To those people who should thank in a band Giving a hug or shaking a hand Who risked themselves to save our life Without caring for their children or wife They are policemen country's hope Without them surely we should elope They are people really very brave To our country everything they gave I thank you police and our forces Putting life at stake one of our daily Chores I thank you from the core of my heart Thank till the ending thanks for the start

> Biradar Jyoti Kiran TYCM



Mother is My Teacher

Mother is My Teacher
Teacher is like Mother
Mother teaches to walk
Teacher teaches to talk,
Mother is like a flower,
Teacher is like a sweet smell,
Mother is like a Durga goddess,
Teacher is like a Saraswati
goddess,

Both shower the blessings on everyone.

Mother is like a key to every problem,

Teacher is like a solution to every Question

There is no blood relation then What

Both protest us from every problem Both shower the blessings on us.

Mehetre Sanchita Nivrutti-TYCM

Friendship

Friendship is like "Nokia" Connecting people. Friendship should be done After drinking "Sprite" "Dekhawe pe mat jao, Apani akal lagao" When your friend is angry with you Give him "7Up" "Thanda Sabse Cool" When friends light they should Use "Airtel" "Duriya Nazdikiyan me badal jaye" Then go to Chocolate Shop, Have a "Perk" "Thodi si Masti". Friendship is like "Pepsi" "Yeh Dil Mange More" When we have more When we have friends Use "Reliance" "Kar lo Duniya Mutthi me" Because friends & their friendship Is like 'HP'



Aaccha Lagata hai..."

BALANCE SHEET OF LIFE

- > What comes to you is Credit.
- ➤ What goes from you is Debit.
- ➤ Birth is your Opening Stock.
- ➤ Death is your Closing Stock.
- Your ideas are your Assets.
- Your views are your Liabilities.
- Your happiness is your Profit.
- Your sorrow is your Loss.
- Your soul is your Goodwill.
- Your heart is your Asset.
- Your duties are your Outstanding Expenses.
- Your friendship is your Hidden Adjustment.
- Your character is your Capital.

month of the financial year.

- Your patience is your Bank Balance.
- Your thinking is your Current Account.
- Your behavior is your Journal Entry.
 Bad things you should always depreciate.
 Have a nice balance sheet and Happy last

Malghe Neha Vilas TYCM



SUCCESS MANTRA

Take Up One Idea,

Make That One Idea In Your Life
Think of it ,Dream of it,
Live on That Idea.

Let The Brain ,Muscles,Nerves,
Every Part Of Your Body,
Be Full Of that Idea,
And Just Leave Every Other
Idea Alone......

This Is The Way To Success.

Sayali More, (FYEJ-I shift)

POEM

Stop wasting time on Facebook
Get back to your studies.
If you didn't stop tweeting
Your exams won't be a breeze.
Get back to your books and journals
(manuals)

Read ,Write ,Understand or

Do whatever it takes to all your exams.

Don't make your exams larger than life,

Or you will invite nothing but struggle.

Treat your exams as just another test,

Eat well,Study hard,have fun Take rest..

Salunkhe Pratiksha Namdev TYCM

The Light!

A decade ago, Flickered a small candle light,

To Illume our Lives with all its might.

Burned itself gladly to radiate the light of knowledge

And to Broaden the scope of wisdom beyond its edge.

Knowing that it could annihilate darkness,

Gave it more energy,

It continues to burn itself with all its brightness,

Powered with a lot of Synergy.

And the candle burns incessantly...

Innocent minds are illuminated,

Individual minds are Ignited.

BVIT strives hard To kindle

Intuitive, intrepid and invincible minds!

Shalini Nayak TYCE



Did you know.....

Did you know.....?

11% of people are left handed.

Did you know.....?

August has the highest percentage of births.

Did you know.....?

Unless food is mixed with saliva you can't taste it.

Did you know.....?

The average person falls asleep in 7 minutes.

Did you know.....?

A bear has 42 teeth

Did you know.....?

An ostrich's eye is bigger than it's brain.

Did you know.....?

Most lipsticks contain fish scales

Did you know.....?

No two corn flakes look the same.

Did you know.....?

Lemons contain more sugar than strawberries.

Did you know.....?

85% of plants are found in the ocean

Did you know.....?

Rabbits like licorice.

Did you know.....?

The Hawaiian alphabet has 12 letters

Did you know.....?

A lobsters blood is colorless but when exposed to oxygen in turns blue.

Did you know.....?

The most commonly used letter in the alphabet is E

Did you know.....?

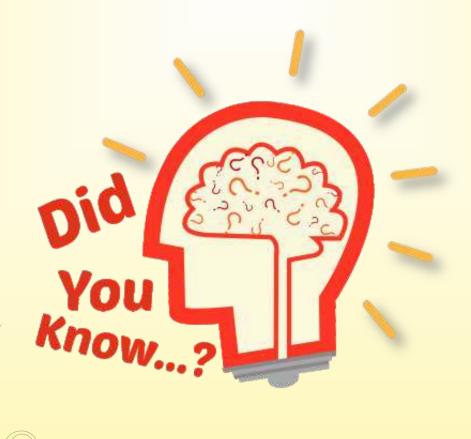
Reindeer like bananas

The longest recorded flight of a chicken was 13 seconds.

Did you know.....?

Birds need gravity to swallow.

Athary Patade TYCE



A Travelogue of life

Mrs. Rajitha T.B H.O.D. Electrical Engineering

THE ALCHEMIST-----A fable for following your dream

The closer when one gets to realize his destiny,

The more his destiny becomes the reason for his being

----Paulo Coelho

In this world of hypocrisy, odiousness, envy and viciousness a man only thinks of enjoying the worldly virtues by him without confronting a single hardship. How many of us are really ready to take "a path less travelled" for the passion of a dream? "The Alchemist", one of the most heartwarming bestsellers ever written by Paulo Coelho is all about finding your 'Personal Legend' and pursuing your dream regardless of any hurdles, and about being spiritually connected to the universe, which is part of us, and part of God Himself. The story revolves around a young shepherd from ANDALUSIA named SANTIAGO who wanted to travel around the world, set out to the pyramids in Egypt in search of his treasure trove of life.

During his interesting journey of twists and turns he comes across many mystical characters who sometimes guide him or deceive him in many ways. However each character portrayed by the author is always inciting the protagonist to continue his journey. The most gripping and mysterious character in journey is an old man named melchizdek who addresses himself as the king of a country very distinct and desolated. The readers would be under the contemplation that the characters existence is necromantic but to enhance the suspense and beauty of the content the author has kept it anonymous.

While hoping a red signal and fade of his desperate dream, there comes an extraordinary savior or well wisher of SANTIAGO, a businessman in drudgery. SANTIAGO 's excellence in heaping up profits brings up the life of both into a comfort zone where at last they can live their dreams. While the man wanted to enjoy his dream as an impossible fable the boy wanted to live them. The spirit of making a dream possible was rebuked in SANTIAGO after his encounter with this character. All the cast of the novel are peculiar to improve the vivacity of the content.

At the time of distress and indecisiveness he turned to the two cryptic stone given by the old man namely "urim" and "thumium for a divine intervention. According to the old king these stones are his mentors throughout his travel. While leaving the glassware shop of the crystal merchant these stones again influenced him brightly by showing a positive signal and a safe road ahead.

The novel's star attraction is none other than the Alchemist who guides the boy about the treasures of life. SANTIAGO becomes his disciple and starts respecting his presence. The alchemist, the most poignant character in the series is a true icon of benevolence as having gifted with the art of changing any given metal into gold, doesn't use it for his own benefits.

A short yet very important piece of the series is the Coptic monk who portrays a character similar to the alchemist. The Englishman-whom he met on the caravan, Fatima- a girl from the al-Fayoum oasis, The Gypsy Woman- the first one to tell him about the pyramids of Europe all have their own role to play in SANTIAGO's life. "Well, it's a long list. But the path was written in the

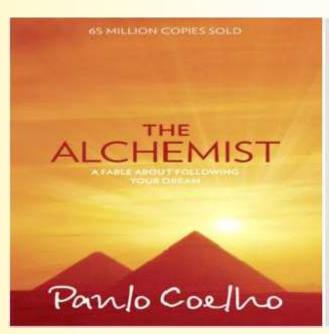
omens, and there was no way I could go wrong," he said to himself.

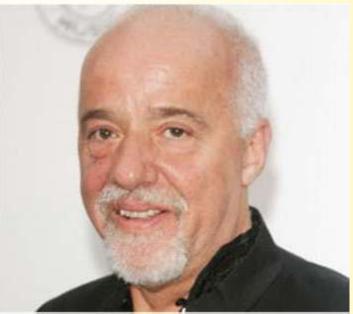
The author's wonderful and perpetual endeavors has transformed this fiction into an amiable and real fable of following ones dreams which often suggests that if you are desperate to find something the whole universe conspires with you to achieve it. "You old sorcerer," the boy shouted up to the sky. "You knew the whole story". In this, the author reaffirms that nature would always try to hold you back some or the other way but it's you who should not give up as even the quadrupeds don't give up until they get the desirable.

"No", he heard a voice on the wind say."If I had told you, you wouldn't have seen the pyramids. They're beautiful, aren't they?" The boy smiled, and continued digging.....

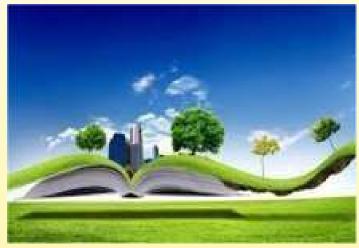
In a yet another fable" the MONK who sold his FERRARI" by Robin Sharma, a conversation between the protagonist and his friend goes, "it's not what you get out of the book that is enriching – it's what the books will get out of you that will ultimately change your life. He continues, "Remember some books are meant to be tasted, some books are meant to be chewed and finally some books are meant to be swallowed". I feel "The Alchemist" belong to the last category.

I personally thank the author for having endowed us with such a novel wishing him and all the others who have made this book possible a good luck ahead in life requesting them to bring in existence a few more tales of inspiration.









Water Shortage: A Growing Crisis

It's hard to most of us to imagine that clear ,safe water is not something that can be taken for granted. But in the developing world ,finding a reliable source of safe water is often time consuming and expensive. This is mainly the economic Scarcity

The problem of water scarcity is a growing one. As more people put ever increasing demands on limited supplies, the cost and effort to building or even maintain access to water will increase . And water's importance to political and social stability will only grow with crisis.

Clean, Safe Drinking water is Scare.

It's Importance (Of Water)

Today nearly 1 billion people in the developing world don't have access to it. Yet, we take it for granted, we waste it, and we even pay too much to drink it from little plastic bottles.

Water is foundation of life .And still today ,all around the world ,too many people spend their entire day searching for it.In places like south Africa ,time lost in gathering water and suffering from water born diseases .

Education is lost to sickness .Economis development is lost while people merely try to survive.But it doesn't have to be like this.It's needless suffering.

IN many places we can observe that 90% of the work gathering water and wood is done by women. Women and girls often spend upto 6 hours every day fetching water. This amounts to 40 billion hours spent every year walking for water alone. In some areas ,only 50% of girls are enrolled in school due to lack of toilets.

IT's Effect:

To be able to adequately feed and support the world's growing population ,Our global economy needs to continue to grow. Water is critical to future growth. But it can also becomes the major limiting factor to growth. for instance ,businesses in water ,scarce areas are already at risk, and so investers are increasing taking water supply into consideration during their decision making processes

Today many regions of the world are already water stressed due to population and economic growth. In fact 2.5 billion people lives in these regions and more than 20% of global GDP is already produced at risky, water scare areas affecting production, as well as corporate reputations when unpetitions over water usages develops. In IFPRI study also found that 45% of total GDP will be at risk due to water stress by 2050. thats's 1.5 times the size of today's entire global economy.

Access to clean water improves-

1.Education-

When students are free from gathering water, they return to class with proper and safe latrines, girls stay in school through their teenage years.

2.Health-

Safe water, Clean hands ,healthy bodies, Time lost to sickness is reduced and people get back the work of lying themselves out of poverty.

3.Hunger-

Access to water leads to food security, with less crop loss, hunger is reduced.

4.Poverty-

Access to water can break the cycle of poverty. The communities we serve are ready to grow .we can't wait to see how they choose to do it..

How can we overcome this problem of water shortage.?

- 1. By wasting less,resuming more,managing effectively and becoming more efficient in all uses of water –individual,collective,agricultural and industrial use can achieve higher water productivity levels and reduce water stress.
- 2. by improving water supply, sanitation and hygine
- 3. checks pipes for leakage in homes
- 4. Avoid shower bath or take shorter shower.
- 5. less use of water while washing cloths and in kitchen
- 6. wash fruits and vegetables in pan of water instead of running water under the tap
- 7. Collect water you use while washing fruits and vegetables, etc

Only by changing today's approach to future water management and water productivity we can ensure a prosperous future

Sohel Dakhani SYCH



My Suicide Note



Hi humans,

"This is my suicide note. I am writing this note with a heartful of sorrow and eyes filled with tears.

Being a tree I was born and brought up in the forest where I spent my time enjoying a beauty of nature and the essence of the soil. I enjoyed the warm of sunlight and the cool natural breeze every day

As I grew up gradually, many living creatures such as small birds and insects started taking shelter in my shade. I was glad I could offer shelter to many such creatures. They used to play on me, love me and our relationship was more beautiful than best relation in the world.

My life was so beautiful and joyful but like other stories, mine also came to a tragic end. A few days ago, a group of real estate developers entered the forest and began to uproot my friends one after the other.

As I live in the middle of the forest my turn is yet to come. The sight of the birds and creatures running away to save their lives, stole the forest of its glory. It was heart breaking to see the once lush forest left behind barren.

Finally it's my chance to be uprooted tomorrow. But, before that I want to make an appeal to all the humans, which is the main intention of this note.

Please help us, save us we demand you nothing but a little bit of security. We are the reason you have rainfall, We are responsible for the rich resources, We are here to serve you.

What would happen if all of us were uprooted? no rains, no water, no shelter for animals, no cool breeze, no pristine surroundings, only a landfull of pollution, and ecological imbalances.

If not for yourself, atleast think of your future generation what would they have? "Can you provide them a pollution free atmosphere? Can they live their lives happily?

I am writing this suicide note not for sympathy, But to create an awareness among people. Before my turn comes tomorrow I myself committing suicide"

Wish you all a happy and good life



Yours Undemandable

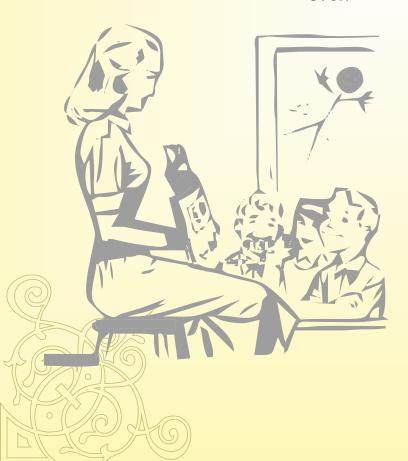
TREE

By- Taikhoom Rajkotwala-SYEJ

Mother is My Teacher

Mother is My Teacher
Teacher is like Mother
Mother teaches to walk
Teacher teaches to talk,
Mother is like a flower,
Teacher is like a sweet smell,
Mother is like a Durga goddess,
Teacher is like a Saraswati goddess,
Both shower the blessings on everyone.
Mother is like a key to every problem,
Teacher is like a solution to every Question
There is no blood relation then What
Both protest us from every problem
Both shower the blessing on us.

Abdullah Shaikh SYCH



Something inside

There's something inside
That Make you go on.

Though the road is rough

And Things go wrong.

There's something that lifts

Your heart in song.

The world's in a hurry

Often passing you by

With a lump in your throat,

You wish you could cry.

But something inside

Keeps your head held high,

No matter how weary

At the close of the day.

There's something inside That makes you pray.

Asking for courage

Along life's way,

It dwells in your heart.

THIS something inside

Helping you Face life.

When you would rather hide

Its GOD'S love within you

Always ready to guide!

Pooja Dhanawade SYCH

ON DOING NOTHING AND HAVING NOTHING

There is no choice you have made which hasn't been tailored for you first. You've been told you are special since birth. Things are expected of you. Great things. And you're shaken to your roots. An eternal fear resides in every human being of doing nothing and having nothing. Of living a life only because it's been given to you. That is your illusion. Life hasn't been given to you; for after you're gone, life will carry on and leave you behind.

Let go of the illusion of control. You don't live this life. Life lives you. Only when you let go of this illusion will you achieve any real control. The moments you're alive are the only moments you are able. Don't just leave your mark on history, leave a bloody smear. Paint that page red.

The world isn't in your five inch smartphone screen. It's out there. It's waiting. The ground is waiting to be marched upon. The water is waiting to be splashed. The air is waiting to be breathed; and when life leaves you, you won't even have a chance to regret the things you didn't do.

You can be shaped or you can be broken. There is no between. Try to learn. Be coachable. Try to learn from everybody, especially who fail. These are people who have had nothing. These are people who you fear becoming. But these are also the people who have lived life in its entirety. The highs and the lows.

There is no absolute truth in life. None you can prove or disprove, anyway. The only absolute is you. And as long as there is you, there is everything you are. The painter, the singer, the surgeon. The farmer, the writer, the soldier. Only you can define limits to yourself. Only you know what you are and what you are not. Embrace that fear. For it will only drive you. Away from doing nothing and having nothing... Closer to doing something, having something, and most influentially, having been something.

THE POEM

To dream the impossible dream;
To fight with the unbeatable who,
To bear with unbearable sorrow;
To run where brave not to go,
TO love the pure and chose from apart;
To right the unforgiveable wrong,
To try when your arms are vary,
To reach the unreachable star.....

This is my quest to follow the star;

No matter how place,

No matter how far...

To fight for the right;

Without question,

Without pause;

To be willing to march into the hell for the heavenly cause....

Disha Rajput SYCH



पांडव चौक

प्रितम कामात व्यस्त होता. त्याची सराईत बोटे हातातील फाईल, पेपरवर काम करत होती. त्याचे लक्ष त्याच्या कामाकडे होते काही दिवसांपासून त्याला कामाव्यतीरक्ति काही सूचत नव्हत. तो आपल्या कामाशी एकनिष्ठ झाला होता.

या कामात प्रितमचा कस लागणार होता. जर त्याला या कामाचे कंत्राट मिळाले तर त्याची वाहवा होणार होती. हे काम भविष्याच्या दृष्टीने त्याच्यासाठी खूप महत्वाचे होते.

तसा प्रितम स्वभावाने जनतेचे कधी ही नुकसान होवू न देणाऱ्या कामाआधी गोरगरीबांचा विचार करणारा होता.

औद्योगित प्रकल्प व वसाहत गावाबाहेत असल्यामुळे तेथे झाडे व वेली वाढलेल्या होत्या, प्रकल्प उभे करताना कित्येक झाडे जमीन दोस्त झाली होती. औद्योगीक कामगार वसावहतीकडे जाणाऱ्या रस्त्याचे डिझाईन करताना त्याला फार अडचणी येत होत्या.

त्या ठिकाणी भूभाग नैसर्गिक दृष्टिने उंच-सखल होता, अजस्त्र वटवृक्ष, आणि एक अजगरागत पसरलेला हायवे आणि सतत <mark>बाहेरगावी</mark> जाणाऱ्या बसेस व ट्रक.

प्रितमने ड्रायव्हरला गाडी हायवे सोडून औद्योगीक वसाहतीच्या स्थळी घेण्यास सागितली गाडी वसाहती<mark>कडे वळली, परंतू थोड्या</mark> अंतरावरून प्रितमने पायी जाण्याचा विचार केला. त्याने त्या भागाचा बराच पायी प्रवास केला.

प्रितमच्या मनात आलेला विचार पक्का होता, हे पाच वटवृक्ष पूर्णपणे कापून टाकले तर इथून सुंदर रस्ता बनेल. ते पाच भलेमोठे रांगेत उभे असलेले वृक्ष त्याच्या मार्गातील मोठा अडसर झाली होते. म्हणून क्षणाचाही विलंब न करता त्याने पेन्सील काढून वडाच्या चौकटीवर फुली मारली ही वडाची झाडे कापून त्याला मोठी मोकळी जागा मिळणार होती.

या सर्व कामात प्रितम जवळजवळ सहा तास उन्हात उभा होता. मार्च मिहना संपत आला होता. उन्हाची काहीली वाढली होती. उन्हाच्या दाहमुळे प्रितमला अंधारी आली, कसाबसा भेलकांडत तो वडाच्या झाडाखाली जाऊन बसला. हातातल्या फाईल बाजूला टाकल्या आणि वडाच्या बुंध्याला पाठ टेकून डोळे मिटले. घामेजलेल्या अंगावरून वारे गेल्यामुळे तो सुखावला अचानक त्याच्या अंगावर पाण्याचे थेंब पडले आणि तो दचकला, वडाच्या पारंब्या चित्रविचीत्र हालत होत्या, जीं तो विलक्षण वृक्ष त्याला दोन्ही हातानी नाही नहीं महणत होता. वडाच्या झाडावार असंख्य पक्षांची घरटी होती.

ते पक्षी, वडाची झाडे र्जी त्याच्या भोवती फेर धरून नाचू लागरी, अचानक प्रितमला डोळ्यासमोर अंधार पसरला. जेव्हा त्याला शुध्द आली तेव्हा त्याच्या आजूबाजूला काही बायका व माणसे होती. काहींनी त्याच्या तोंडावर गार पाणी मारले डोळे उघड रं बाबा एक वयस्कर म्हातारी बाई बोलली. पितम खडवडून जागा झाला, त्यातल्या एका माणसाने पाण्याचा ग्लास त्याच्यासमोर धरला आणि म्हणाला 'घ्या साहेब, पाणी प्या! बरं वाटतयना आता' एक म्हातारा माणूस (वयस्कर) म्हणाला एका बाईने मायेने त्याच्या कपाळावरचे पाणी आपल्या पदराने पुसले.

'साहेब तुमी इंजीनीअर हायेत व्हय' एका धोतर नेसलेल्या माणसाने विचारले. प्रितमने होकारार्थी मान डोलवली. 'बरे झाले साहेब तुम्ही पळून झाडाखाली आलात. त्या मेल्यांचे मुडदे गाडले! सगळी झाडे पाडली बघा. आता हये बी पाडनार आहेत का कोन जाणे?' प्रितम दचकला. 'आर ही झाड आहेत म्हणून दुनिया आहे. पैशांच्या मागं लागलेली ही माणसं आणि शिकली सवरलेली माणसं कशाला डोक लावतील? आणि जीव टाकतील झाडांवर? त्याना काय पडलेये कोणाच' एक कामगार फिस्करला.

ेया झाडाच्या सावलीत इतके वर्षे पोट भरतो हाय मी' तेथील एक चांभार म्हणाला, 'ही झाडे पाडली तर म्या कुटं जायच?' प्रितम भारावून गेला, सर्वांचे आभार मानून त्याने त्या लोंकांचा निरोप घेतला. गाडीतून घरी जाताना तो अंतर्मुख झाला. प्रितमने तयार केलेला कामाचा नकाशा समोर ठेवून आपली योजना बदलली. ती वडाची झाडे तशीच राहणार होती. त्याने विचार केला माझा प्लॅन मंजूर नाही झाला तरी चालेल. पण मी गरीबांना उन्हात ठेवणार नाही. उलट शक्य तितकी झाडे लावण्याचा प्रयत्न करीन. या चांगल्या विचाराने त्याला हलंक हलंक वाटत होतं. त्या बदलेल्या योजनेमुळे त्याच्या चेहऱ्यावर एक समाधान पसरलेले होतं.

प्रितमचा प्लॅन मंजूर झाला. त्याला खूप आनंद झाला. रस्त्याचे काम सुरु झाले. त्यामुळे प्रितमला बऱ्याच वेळा जावे लागले. तो तिथल्या लोकांचा मित्र बनला. मिराबाईचा टपरीवरचा चहा पिण्यासाठी गाडी थांबवून आर्वजून चहा पित असे.

प्रितमने रस्त्याचे काम सुरळीतिरत्या पूर्ण केले, त्याच्याबरोबर तेथील लोकांसाठी बरीच खटपट केली. त्या चांभाराला टपरी घालून दिली. बरीच खटपट करून मिराबाईंना कॅन्टीनटे काम मिळवून दिले. बऱ्याच अधिकाऱ्यांना भेटून रस्त्याच्या दोन्हीकडे झाडे लावण्याची योजना मंजूर करून आणली. पाच वडांच्या झाडाच्या चौकाला त्याने पाच पाडंव नाव दिले.

आज लोकार्पण सोहळा होता. मुख्यमंत्र्यांच्या हस्ते सत्कार समारंभ पार पडला. प्रितमला ट्रॉफी देऊन गौरविण्यात आले. प्रितमच्या पर्यावरणवादी विचारांची स्तुती करण्यात आली.

प्रितमने सर्वांचा निरोप घेतला पाच पांडव चौकात गाडी थांबवून त्याने त्याना नमस्कार केला.

<mark>ते पाच वृक्ष धिरगंभीर उभे होते,</mark> र्जीू पाच ऋषीमुनीच. प्रितमच्या मनात गाण्याचे स्वर गुंजत होते. 'वृक्षवल्ली आ<mark>म्हा सोयरी वनचरीफ</mark>

Ritika Jadhav-SYEJ



घरकुल

घर म्हणजे काय असतं? आईने सजवलेलं वावांनी फुलवलेलं ते एक नंदनवन असतं ! रक्ताची नाती भावनात्मक गंतलेली असतात. तीच तर जीवनाच्यां खडतर वाटेवर आधार देतात! या घरात सदैव आपल्यासाठी झगडणारं कुणीतरी असतं स्वत:च्या जगण्याचं, आनंदाचं, त्यांना भानही राहीलेलं नसतं! जीवनाची सुरवात एका श्वासाने होते आणि शिक्षणाची गाडी चालतंच राहते! कधी प्रेमाने, कधीरागाने, कधी आपुलकीने सांगतात . आपले आईवावाचं आपल्याला सतत घडवतं असतात! जेव्हा हेच घर सोडुन वाहेर जायची वेळ येते . <mark>तेव्हा मन कोमजत, रडत, भावना दुखावतात,</mark> तेव्हा पाठीवर हात ठेऊन आशेचा किरण दाखवणारे आपले आईबाबाचं असतात .

Nikhil Naik-SYEJ



स्वप्न पहा

कोणी स्वप्न दाखवतो आपण बनू महासत्ता तर गरीवाच्या स्वप्नात उद्याच्या भाकरीची चिंता पण कसेही असले तरी स्वप्न जरूर पहावीत आणि जागेपणी ती पूर्ण प्रयत्न करावे हे मात्र नक्की! जाताजाता टाइम फेवरेट स्वप्न सांगतो जे मला अजूनही कधीकधी पडते,

ते म्हणजे मी परीक्षेला बसलोय, पेपर चालू आहे आणिमी ब्लॅंक झालोय अर्थात पेपरही ब्लॅंकच राहिला आहे पेनातील शाई संपली आहे तिकीट घरी विसरलोय वैगेरे वैगेरे आणि जर नशीब जोरावर असेल तर मग पहाटेच्या निरव शांततेत ही माझा आवाज घुमतो सप्लिमेंट प्लिज!

म्हणूनच सांगतो, जैसे भी होते है, ख्वाब अच्छे होते है, म्हणून स्वप्न पहा!



माणसा मधला देव



देव हा प्रत्येक ठिकाणी आहे असे आपण महणती ते खरचं आहे. आपण मनापासून शोध घेतला तर तो आपणाला प्रत्येक ठिकाणी आहे असे अनुभवायला मिळेल. असे कि आपण जेव्हा एखाद्या व्यक्तिला मदत करतो तेव्हा आपणांस जे सुख मिळते व तो जो आनंद मिळतो ते म्हणजे देवभेटल्यासारखेच वाटते. म्हणूनच जे लोक अडचणीच असतात की ज्या लोकांना मदतीची गरजे आहे त्यांना आपण शक्य असेल तेवढी मदत केली पाहीजे.

असाच एक २३ जुलै २००५ रोजी जेव्हा मुंबईत महापूर आला तेव्हाचा आमच्या कुंटुंबात अनुभव येथे नमुद करावासा वाटतो. तो दिवस मला आजही आठवतो आहे. तेव्हा मी साधरणता आठ वर्षाचा असेन व आमच्या शाळेची माझी मुख्याध्यापक त्या दिवशी मरण पावल्याने आम्हाला शाळेचा सुट्टी देण्यात आली होती व त्या मुळे बऱ्याच मुलांचे प्राण वाचले मी संतक्कझ कलिना विभागात रहात असल्याने

आम्हाला मिठी नदी जवळ आहे. सतत दिवसभर पाऊस पडल्याने व अचानक दुपारी २ वाजल्यापासून पावसाचा जोर वाढल्याने मिठी नदिला पूर आला व त्यातच विमानतळ जवळच असल्याने पाण्याच्या जोराने सुरक्षा भिंत पडल्याने संपूर्ण पाणी किलिना विभागात शिरले व सर्व रूम पाण्याखाली अचानकपणे गेले. परंतु ज्या लोकांचे ज्या लोकांचे माळे होते त्याच घरात आजूबाजूचे लोक आश्रया करिता गेले त्यामुळे बऱ्याच प्रमाणात मनुष्यहानी टळली गेली. त्या वेळेस आम्हीही चाळीत राहत असल्याने व आमच्या घराला मला असल्याने आमच्याही घरात शेजारचे २८ ते ३० लोक आश्रया करिता आले होते. त्यावेळेस माझ्या पापांनी आणि काकांनी त्यांना पोहता येत असल्याने शेजारच्या लोकांना पकडून व्यवस्थितपणे आमच्या घरात आणले व दोन रात्र आणि दिवस त्यांना आश्रय दिला.

आशाप्रकारे लोकांची संकट समयी मदत करून जो आनंद मिळला तो प्रत्येकक्षपणे परमेश्वर मिळाल्या सारखे होता. म्हणून देव हा माणसातच आहे. असे म्हणायला हरकत नाही.



समय अमूल्य है

समय अमूल्य है, जिंदगी में एक वर्ष का क्या महत्व है यह इसी वर्ष फेल हुए विद्याथी से पूछिये एक माह का महत्व जानना है तो उस माँ से मिलिये जिसने **"अठ मासिया" बच्चे को जन्म दिया है** सात दिन का महत्व जानना है तो किसी साप्ताहिक-पत्र के सम्पादक से मिलिये एक दिन का महत्व वह दैनिक मजदूर ही बता सकता है जिसे आज मजदूरी नहीं मिली है एक घंटे का महत्व जानना है तो सिकंदर से पृष्ठिए जिसने आधा राज्य देकर एक घंटा मौत को टालने का आग्रह किया था एक मिनट का महत्व उस भाग्यशाली से पूछिये जो वर्ल्ड-ट्रेड-सेन्टर की इमारत गिरने से ठीक एक मिनट पहले ही बाहर सुराक्षित निकला है अब बचा एक सैकंड तो एक सैकंड का महत्व उस धावक से पूछिये जो इसी एक सैकंड की वजह से स्वर्ण-पदक पाते-पाते रजत-पदक पर रह गया है सचम्च समय अमूल्य है

Saurabh Kanase-SYEJ



देश के जवान

देश के जवान थे, वह देश के जवान, मर मिटे थे देशपर, दे दी अपनी जान कितने वे वीर थे,कितने वे त्यागी, मर मिटने को तैयार, देश के अनुरागी मातृभूमि के पुकार पर वीर हे जागे जिसके कारण देश से अंग्रेज है भागे जिस्म से उसने सारे लहू बहाए, जो वादा किया था वह वादे निभाए सरहद पर लड़ते थे छाती अपनी तान

Moiz Hassan-FYME



लापरवाही

साबुन गया आँख में छीक आई नाक से रोना आया जोर से मम्मी आई दौड़ के गले लगाया लाड से काम करो ध्यान से पानी गया कान में आँसू टपका आँख से पापा जागे शोर से सारा काम छोड़ के डाँट लगाई प्यार से प्यारे हो तुम जान से







Niranjan Kolur-SYME

२६ नवंबर की रात

२६ नवंबर की रात ९:३० बजे वे घुसे थे।
मुंबई में कोलिवाड़े के रास्ते से
ताज होटलपर फायरिंग कर,
चूर-चूरकर दिया उसे
सी.एस.टी पर ग्रेनेट फेंके
राख-राख कर दिया उसे
नरीमन को तोड़-तोड़कर,
शमशान बना दिया उसे
ओबेरॉय को बेगुनाहों के खून से रंग दिया उसे
सच में आतंकियो ने मानवता को पकड़ा
और फिर मार दिया उसे

Sai Nalawade SYEE

माँ का कर्ज

अपने रक्त से सिंचित करके माँ ने हमको जन्म दिया
गर्भ से ही उसने संस्कारों का आधार दिया
सर्वप्रथम जब आँख खुली तो मुःख पर माँ का ही स्वर आया
दुनिया में किस बात का डर जब सिर पर हो माँ का साया
पहला स्वर सुनते ही उसने छाती से अमृत डाला
अपने वक्षस्थल में रखकर ममता से है उसने पाला
प्रथम गुरु है माँ ही अपनी उससे पहला ज्ञान मिला
माँ का रुप है सबसे प्यारा
उससे सबको मान मिला
माँ ही अपनी मूलदायिनी
माँ का नाम जपे सब प्राणी
माँ के चरणों में स्वर्ग है बसता
करते सब तेरा वंदन
तेरा कर्ज कभी न उतरे
तुझको कोटिशःअभिनंदन

Mrinal Jadhay-SYEE



पापाजी की दुनिया

आजकल कई सारे धोटाले रोज सुनने में आते हैं और हमे हर बार यही जवाब देते हैं...... इस बारे में कोई जानकारी नहीं हैं. पता, नहीं वो सच बोल रहें है या....? बस उन्हीं को संबोधित करके (पापाजी) कुछ पंक्तियाँ लिख रहा हूँ

कौन झूठा, कौन साँचा पापाजी?
हम ने भी जाके खोजा हर कोना कोपचा पापाजी
आश्वासन देते,वादे करते मीटिंग करते पापाजी
कभी क्षणभर बैठकर बिजनेस अपना जांचा आपने पापाजी
महंगाई भागाएँगे तरक्की दिलवाएँगे, वादे करते पापाजी,
जब गडबड़ी उजागर होती, विपक्ष पे हमला करते पापाजी
प्रवक्ता जब भी प्रश्न करे,आरोप मढ़ते पापाजी,
"वेल नो कमेन्ट" का एक ही खोलते पर्चा पापाजी
अब क्या करेंगे, अब क्या कहेंगे?
सब ओर आपकी चर्चा पापाजी
सीमा पर लड़ते रहते है फौजी देश के जगते है,
"चारा" कोयला" "2G" बेचकर चैन सें सोते पापाजी
कस्में वादे निभाएँगे हम, वादे करते पापाजी
चुनाव समाप्ति होते ही, बढ़ाते देश का खर्चा पापाजी

Saurabh Kanase-SYEJ



सफर जिन्दगी का

जिन्दगी दर्द का इक सफर है
जो ना जाने उसको लगता डर है
अजनबी भी मिला साथ हम हो लिये
दो घडी हँस लिये दो घड़ी रो दिये
कौन जाने कहाँ किसका घर है
जो न जाने उसको लगता डर हेर
राह चलते गये चाह बढ़ती गई
हर खुशी आह बनकर उमड़ती गई
किन इरादो में खोई नज़र है
जो न जाने उसको लगता डर है
आशिया जल गया आसमा रो पड़ा
बेरहम आदमी हँस रहा है ख़डा
लगता आस का ठंडा असर है
जो ना जाने उसको लगता डर है

Pranali Vanve-SYEE

















Bharati Vidyapeeth, Pune

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Hon'ble Dr. PATANGRAO KADAM M.A., LL.B., Ph.D.

- Founder, Bharati Vidyapeeth Bharati Vidyapeeth Deemed University
- Minister for Revenue, Maharashtra State

AT A GLANCE



EDUCATIONAL CAMPUSES :

Pune ● Navi Mumbai ● Navi Delhi ● Panchgani (Satara) ● Sangli ● Karad ● Kolhapur ● Solapur ● Jawhar ● Jat

■ BHARATI VIDYAPEETH DEEMED UNIVERSITY: (Reaccredited with 'A' Grade by NAAC) with 32 constituent units

• Medical College, Pune • Dental College & Hospital, Pune • College of Ayurved, Pune • Homoeopathic Medical College, Pune • College of Nursing, Pune • Yashwantrao Mohite College of Arts, Science and Commerce, Pune • New Law College, Pune • Social Sciences Centre (M.S.W.), Pune • Yashwantrao Chavan Institute of Social Science Studies & Research, Pune • Research and Development Centre in Applied Chemistry, Pune • College of Physical Education, Pune • Institute of Environment Education & Research, Pune • Institute of Management and Entrepreneurship Development, Pune • Poona College of Pharmacy, Pune; • College of Engineering, Pune • Interactive Research School in Health Affairs (IRSHA), Pune • Rajiv Gandhi Institute of Information Technology & Biotechnology; Pune • College of Architecture, Pune • Abhijit Kadam Institute of Management and Social Sciences, Solapur • Institute of Management, Kolhapur • Institute of Management & Rural Development Administration, Sangli • Institute of Management & Research, New Delhi • Institute of Hotel Management & Catering Technology, Pune • Yashwantrao Mohite Institute of Management, Karad • Medical College and Hospital, Sangli • Dental College and Hospital, Mumbai • College of Engineering, New Delhi • Institute of Computer Applications & Management, New Delhi • Dental College and Hospital, Sangli • College of Nursing, Sangli • College of Nursing, Navi Mumbai • Medical College & Hospital, Navi Mumbai.

■ FACULTIES / DISCIPLINES :

- Arts
 Science
 Commerce
 Engineering
 Medicine
 Dentistry
 Management
 Pharmaceutical Science
- Ayurved Homoeopathic Nursing Hotel Management Law Social Sciences Social Work Architecture
- Environmental Sciences Physical Education Kala (Art) Agriculture Biotechnology

■ INSTITUTE BRANCHES:

- Research Institutes 3 Colleges (including proposed 2): 50 Technical Institutes: 8 Junior Colleges: 14
- Primary Schools and High Schools (Marathi): 38 Pre-Primary Schools and Primary Schools (English): 19
- Balvikas Mandir: 4 Public School: 1 Adivasi Vikas Ashram Shala: 1 I.T.I.(Girls): 1 Other Sections: 17

ASSOCIATE INSTITUTIONS :

- Bharati Vidyapeeth English-Maths Exam Department
 Bharati Vidyapeeth's Bharati Printing Press
 Bharati Sahakari Bank Ltd.
 Bharati Madhyawarti Sahakari Grahak Bhandar Ltd.
 Sonhira Sahakari Sakhar Karkhana Ltd.
 Wangi, Kadegaon, Dist. Sangli
 Krishna Verala Sahakari Soot Girni Ltd.
 Kundal-Palus,
 Sou. Vijaymala Patangrao Kadam Mahila Auodyogik
- Sahakari Santha, Kadegaon, Dist. Sangli Mahatma Gandhi Hospital & Research Centre Bharati Vidyapeeth Medical Foundation Bharati Hospital & Research Centre Eye Bank Mobile Health Care Unit & Ambulance
- Foundation for Rural Development Bharati Vidyapeeth Krida Pratishthan Bharati Vidyapeeth Kala Academy
- Sonhira Milk Producers and Allied Agro Co-op. Soc. Ltd., Kadegaon
 Sonhira Co-op. Poultry Society Ltd., Kadegaon, Dist. Sangli