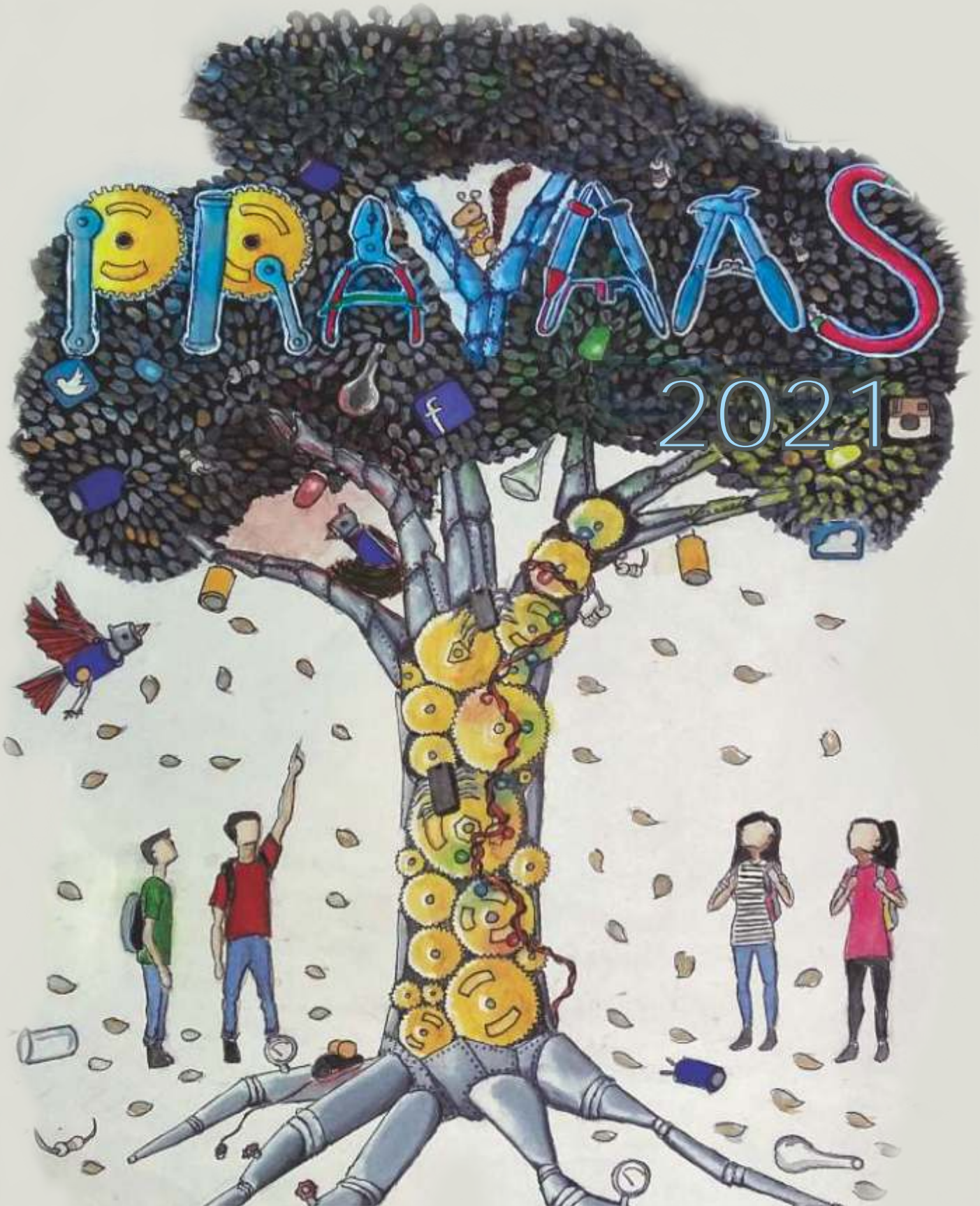


# BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY, NAVI MUMBAI









**Dr. Vishwajit Kadam**  
**Secretary,**  
Bharati Vidyapeeth, Pune

## **Message**

Bharati Vidyapeeth which has recently celebrated its Golden Jubilee is known for the academic excellence of its 80 Colleges of different disciplines. All these Colleges are ranked very high by various Periodicals and Assessing Agencies for their academic excellence.

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

## **Message**

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

**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.

It is my pleasure and pride to present this edition of PRAYAS-21 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.

Mr. P.N.Tandon



## **Editors Desk**

"Climb the mountains and get their good tidings. Nature's peace will flow into you as sunshine flows into trees. The winds will blow their own freshness into you, and the storms their energy, while cares will drop away from you like the leaves of Autumn ."

Who among us has ever yearned to shut down the computer, turn off the cell phone, and be immersed in solitude, where nothing but the sounds of the wind and rustling leaves fill our ears- a peaceful retreat in nature to restore our spirit and make us feel human again? In the bliss of the nature one can disinter his emotions, swirl his feelings and then discover and cherish himself as a delightful and contented human being. He lets his thoughts sing with the melodies of the ripples of a flowing river, dance to the tunes of a waterfall, unrestricted, wild, and free and then paints them on a canvas of imagination. Nature perhaps makes the best poets and authors.

Prayas is a sincere, dedicated and committed effort of our students to showcase their talents and creativity. In addition to that it also reflects the achievements of our students in curricular and co-curricular activities. We hope you have a fantastic time exploring the various opinions, art and literary pieces that we have meticulously arranged for you.

Here is from the desk wishing you all the best in your life

Happy reading

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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## Achievement

### ACHIEVEMENT BY STUDENTS: 2020-21

STUDENT NAME	CLASS	ACHIEVEMENT
Ms. Akansha Ashok Gaonkar	TYIF (student)	Secured Second Rank(Junior Section) at National Level Intercollegiate GK Test 2021 Conducted By Bharati Vidyapeeth ( Deemed To Be University), Pune
Ms. Akansha Ashok Gaonkar	TYIF (student)	Secured Second Rank In State Level Competition-FITFLEX(Sports Category),Organized By ,Thakur Polytechnic, Mumbai
Ms. Akansha Ashok Gaonkar	TYIF (student)	Achieved Outstanding Performance Certificate In Online "C Programming" Quiz Competition Organized By Yashwantrao Bhonsale Polytechnic, Sawantwadi
Mr.Vijay Balasaheb Zambare	TYIF (student)	Secured First Place In "Quiziness" Online Quiz Competition Organized By Dept of Information Technology, BVIT,Navi Mumbai
Mr. Adesh Lodi	SYME (student)	Designed and fabricated Electric bike during lockdown
Mr. Mane Uvraj	Lecturer	Author of text book on Mechanical Engg Materials by Universe-Win Publication House & Research Services Pvt. Ltd
Mr. Anurag Ingole	FYME (student)	He has done Python in 20-21

### ACHIEVEMENT BY STUDENTS: 2020-21

Ketan Bhoje	C-Quest Competition	Govt.Poly. Karad	Online22-May-21Second
Harshal Shikhare	Paper presentation	B.V.I.O.T.,Palus	Online28-May-21First
Sumant Dusane	C' Quest Competition	Govt.Poly. Karad	online20-May-21First
Shraddha Jadhav	General knowledge	BVYMC ,Pune	online07-Jan-21Second

### Chemical Engg Dept -Achievements by faculties

Program accredited by NBA (2020-2201)

Worked as course co coordinator and course experts for developing E content for MSBTE

1. Organized Entrepreneurship Awareness Camp by NSTEDB (2020-2201)
1. E content Development For Chemical Subjects
2. State level quiz competition



## Achievement



## Congratulations To

### Mr. Revaskar Karan Eknath

We are extremely proud to announce that our student Mr. Revaskar Karan Eknath from Electrical Engineering Dept. secured first prize in "Innovative Ideas Competition" a Technical Project Exhibition Competition organized by Government Polytechnic, Karad on 20th May 2021. The competition was an open platform for the students of Diploma in Engineering across Maharashtra to benchmark themselves against their peers using multi-platform testing across varied segments like, research abilities, technical skills, logical thinking, presentation skills etc.

Mr. Revaskar had put in appreciable efforts under the care and guidance of the faculty of Electrical Engineering department to grab this achievement. BVIT congratulate Mr. Revaskar and wish him the very best in his all future endeavors.

The news about his achievement was covered by various media across Mumbai.

पुण्य नगरी

## उरणच्या तरुणाचा शेतीपूरक प्रकल्प प्रथम



। उरण : तालुक्यातील एक शेतकऱ्याच्या मुलाने बनवलेल्या शेतीपूरक व फायदेशीर अशा 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' या प्रकल्पाला प्रोजेक्ट मॅन्व्हेट पॉलिटेक्निकल, कराडने आयोजित केलेल्या स्पर्धेत प्रथम

क्रमांक मिळाला.

उरण तालुक्यातील चिरनेर येथील करण रेवसकर या तरुणाने एका सी-कोडिंग, टेक्निकल विद्यज्ञ, इनोव्हेशन आव्हाना या राज्यस्तरीय स्पर्धेत आपला रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर हा

प्रकल्प पाठवला होता. करणचा हा प्रकल्प शेतकऱ्यांसाठी फायद्याचा आहे. या प्रकल्पामुळे शेतकऱ्याला घरबसल्या पाण्याचे नियोजन करता येणार आहे. त्यामुळे पाणी वाया जाणार नाही, मनुष्यबळाची गरज लागणार नाही शिवाय विजेचीही बचत होणार आहे. कराड येथे २० मेला ही स्पर्धा पार पडली. या स्पर्धेत अथाशी पाटील (रा. कराड) हिचा द्वितीय तर शिवानी व्यवहारे (रा. नाशिक) हिचा तिसरा क्रमांक आला. करण हा भारती विद्यापीठ इन्स्टिट्यूट ऑफ टेक्नॉलॉजी, नवी मुंबई येथे शिक्षण घेत आहे. त्याच्या वशाचे सर्वत्र कीर्तुक होत आहे.

Punyanagari News

## शेतीपूरक उपकरण प्रकल्प महाराष्ट्रात पहिला

# शेतकऱ्याच्या मुलाची यशोगाथा

उरण, ता. २५ (बार्ताहर) : उरण तालुक्यातील एका शेतकऱ्याच्या मुलाने शेतीला पुरक आणि फायदेशीर असे 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' असे उपकरण बनवले. त्याचा तो प्रोजेक्ट कराडच्या राबर्ट्स पॉलिटेक्निकला आयोजित केलेल्या एका सी-कोर्टिंग, टेक्निकल व्हिझा, इन्वोल्वेशन आयडीया स्पर्धेत पाठवला होता. त्या राज्यस्तरीय स्पर्धेत त्यास प्रथम क्रमांक मिळाला आहे.

उरण विजेर येथील करण एकनाथ रेवसकर याचा 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' हा प्रकल्प पहिल्या क्रमांकाचा ठरला. करणच्या या कामगिरीसाठी त्याचे तालुक्यात अभिनंदन करण्यात येत आहे.

करण रेवसकरने बनविलेला हा प्रोजेक्ट शेतकऱ्यांसाठी फायद्याचा आहे. या प्रकल्पामुळे शेतकऱ्याला घरबसल्या पाण्याचे नियोजन करता येणार आहे. त्यामुळे पाणी वाया जाणार नाही. शिवाय विजेची देखील बचत होणार नाही. शिवाय विजेची देखील बचत होणार नाही.



करण एकनाथ रेवसकर याच्या 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' प्रोजेक्टला प्रथम क्रमांक मिळाला.

### करण भारती विद्यापीठाचा विद्यार्थी

२० मे २०२१ रोजी ही स्पर्धा पार पडली. या स्पर्धेत करण एकनाथ रेवसकर याच्या प्रोजेक्टला पहिला क्रमांक, अथाशी अभिलाश पाटील (रा. कराड) हिला द्वितीय क्रमांक, तर शिवानी कमलाकर व्यवहारे (रा. नाशिक) हिला तिसरा क्रमांक मिळाला. करण रेवसकर नवी मुंबईतील भारतीय विद्यापीठ इन्स्टिट्यूट ऑफ टेक्नॉलॉजी येथे शिक्षण घेत आहे. त्याच्या यशाचे सर्वत्र कौतुक होत आहे.

Sakal News

## शेतकरी घरबसल्या करेल पाण्याचे नियोजन

जेएनपीटी । बार्ताहर ।

पाणी म्हणजे शेतीचे जीवन आणि पाया आहे. शेतीची जमीन आणि विकास पाणीपुरवठ्याकडे अवलंबून आहे. हा पाण्याचे योग्य नियोजन घरबसल्या करता आले, तर शेतकरी शेतीचे नटवून करू शकतो. आणि, हे शक्य होणार आहे 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' या उपकरणामुळे. उरण येथील शेतकऱ्याच्या मुलाने याची निर्मिती केली आहे. या प्रकल्पामुळे राबर्ट्स पॉलिटेक्निकला आयोजित केलेल्या एका सी-कोर्टिंग, टेक्निकल व्हिझा, इन्वोल्वेशन आयडीया स्पर्धेत पाठवला होता.

### ॥ उरणच्या करण रेवसकरचा प्रकल्प महाराष्ट्रात पहिला

### ॥ रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर उपकरणाची निर्मिती

उरण विजेर येथील करण एकनाथ रेवसकर याचा 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' हा प्रकल्प पहिल्या क्रमांकाचा ठरला. करण रेवसकरने बनविलेला हा प्रोजेक्ट शेतकऱ्यांसाठी फायद्याचा आहे. या प्रकल्पामुळे शेतकऱ्याला घरबसल्या पाण्याचे नियोजन करता येणार आहे. त्यामुळे पाणी वाया जाणार नाही. शिवाय विजेची देखील बचत होणार नाही. शिवाय विजेची देखील बचत होणार नाही.



राज्यस्तरीय असलेल्या या स्पर्धेत उरण विजेर येथील करण एकनाथ रेवसकर याचा 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' हा प्रकल्प पहिल्या क्रमांकाचा ठरला. करण रेवसकरने बनविलेला हा प्रोजेक्ट शेतकऱ्यांसाठी फायद्याचा आहे. या प्रकल्पामुळे शेतकऱ्याला घरबसल्या पाण्याचे नियोजन करता येणार आहे. त्यामुळे पाणी वाया जाणार नाही. शिवाय विजेची देखील बचत होणार नाही. शिवाय विजेची देखील बचत होणार नाही.

Krushival News

## शेतकऱ्याच्या मुलाने शेतीसाठी उपयुक्त बनविलेला प्रकल्प महाराष्ट्रात पहिला

### १.बादळबारा

जेएनपीटी, २५ मे (अनंत नारंगीकर) : उरण तालुक्यातील एका शेतकऱ्याच्या मुलाने शेतीला पुरक आणि फायदेशीर असे 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' असे उपकरण बनवून त्याचा प्रोजेक्ट राबर्ट्स पॉलिटेक्निकला कराडने आयोजित केलेल्या एका सी-कोर्टिंग, टेक्निकल व्हिझा, इन्वोल्वेशन आयडीया स्पर्धेत पाठवला होता. राज्य स्तरीय असलेल्या या स्पर्धेत उरण विजेर येथील करण एकनाथ रेवसकर याचा 'रेडिओ फ्रिक्वेन्सी वॉटर लेवेल कंट्रोलर' हा प्रकल्प पहिल्या क्रमांकाचा ठरला. करणच्या या कामगिरीने त्याचे तालुक्यात अभिनंदन करण्यात येत आहे.

करण रेवसकरने बनविलेला हा प्रोजेक्ट शेतकऱ्यांसाठी फायद्याचा आहे. या प्रकल्पामुळे शेतकऱ्याला घरबसल्या पाण्याचे नियोजन करता येणार आहे. त्यामुळे पाणी वाया जाणार नाही. शिवाय विजेची देखील बचत होणार आहे. २० मे २०२१ रोजी ही स्पर्धा पार पडली. या स्पर्धेत करण एकनाथ रेवसकर याच्या प्रोजेक्टला पहिला क्रमांक, अथाशी अभिलाश पाटील (रा. कराड) हिला द्वितीय क्रमांक तर शिवानी कमलाकर व्यवहारे (रा. नाशिक) याला तिसरा क्रमांक मिळाला. करण रेवसकर हा भारतीय विद्यापीठ इन्स्टिट्यूट ऑफ टेक्नॉलॉजी, नवी मुंबई येथे शिक्षण घेत आहे. त्याच्या यशाचे सर्वत्र कौतुक होत आहे.



लेवेल कंट्रोलर हा प्रकल्प पहिल्या क्रमांकाचा ठरला. करणच्या या कामगिरीने त्याचे तालुक्यात अभिनंदन करण्यात येत आहे.

करण रेवसकरने बनविलेला हा प्रोजेक्ट शेतकऱ्यांसाठी फायद्याचा आहे. या प्रकल्पामुळे शेतकऱ्याला घरबसल्या पाण्याचे नियोजन करता येणार आहे. त्यामुळे पाणी वाया जाणार नाही. शिवाय विजेची देखील बचत होणार आहे.

Vadalwara News

**Meritorious students**

Department	First Year	Second Year	Third Year
Computer Engg.	Durva Yerunkar	Prathmesh Patil	Vighnesh Manjrekar
Information Tech.	Bhumi Vedant	Apurva Lakeshri	Mohammed Shaikh
Mechanical Engg.	Shubham Nigudkar	Atharv Salunkhe	Aakash Jadhav
Elec & Telecom	Kinjal Patel	Soham Bakkar	Riya Ashok Gorade
Chemical Engg.	Ruchira Ram Kotkar	Khan Gulam	Samiksha Patil
Electrical Engg.	Soham Kadam	Abhishek Chavan	Vipul Gharat
Civil Engineering	Omkar Naik	Atharva Mahale	Jitesh Mhatre



















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## HYDRAULIC ROBOTIC SYRINGES ARM

Vijay Zambare  
TYIF

### INTRODUCTION

This paper describes the project work which we carried out as a part of the curriculum in the final year of diploma in mechanical Engg. "Hydraulic Robotic syringes arm" is a robotic arm which is hydraulically operated and controlled by syringes filled with some fluid. It consists of various parts connected to each other in a pre-designed manner which are guided in a constrained way to obtain required output. These arms are used in assembly lines of mega factories to assemble various parts of a product and also to paint vehicles. They are also used in earth movers to pick up heavy weight and keep them where required. Same principle is being used in JCB's, automobile lifters, etc.

### CONCEPT& DESIGN

The basic concept used behind the operation is PASCAL's LAW. This law states that when a pressure is applied at one point of a fluid contained in a constrained volume, then the pressure due to that force is equally transmitted to all the points of the fluid, which are acted upon by the same pressure. Using the same principle, we applied pressure to fluid in syringe which is transmitted to other end of tube which is connected to a syringe. This motion of the syringe is used to move the links or parts of the mechanism which are attached to respective syringes.

The slotted mechanism used in the design, increases its complexity but at the same time increases its efficiency, ability, area of coverage. Rack and pinion mechanism used

to provide rotatory motion does its work smoothly without any jerks or shocks and giving more degree of rotation and thereby increasing the area of effect. To increase overall stability and to avoid roll over or unbalancing due to torque or extra weight in the front part, suitable counter weight is used in the rear portion of the mechanism. Soap water having least compressibility and high efficiency is used as a fluid in syringes.

### Construction

In the mechanism, each part has been provided with certain degree of freedom to move in a constrained way to guide other parts and also to pick up small weight items and to place them wherever required. The complete mechanism consists of a fixed vertical link. To its free end is connected or better to say hinged, another horizontal link which is free to oscillate about that hinge

in an up-down way of motion. To this link is connected a slotted type mechanism which consists of a slotted box which itself can oscillate about its hinge and in it is a sliding link which can come out of the slot to have the slider like motion. To this slider is connected a surface, underneath which are attached 4 spoons acting as arm to pick up the items. The entire mechanism is fixed on a rack and pinion type mechanism to allow degree of freedom of the mechanism as a whole to rotate by 130 degrees.

### DEVELOPMENT OF MODEL

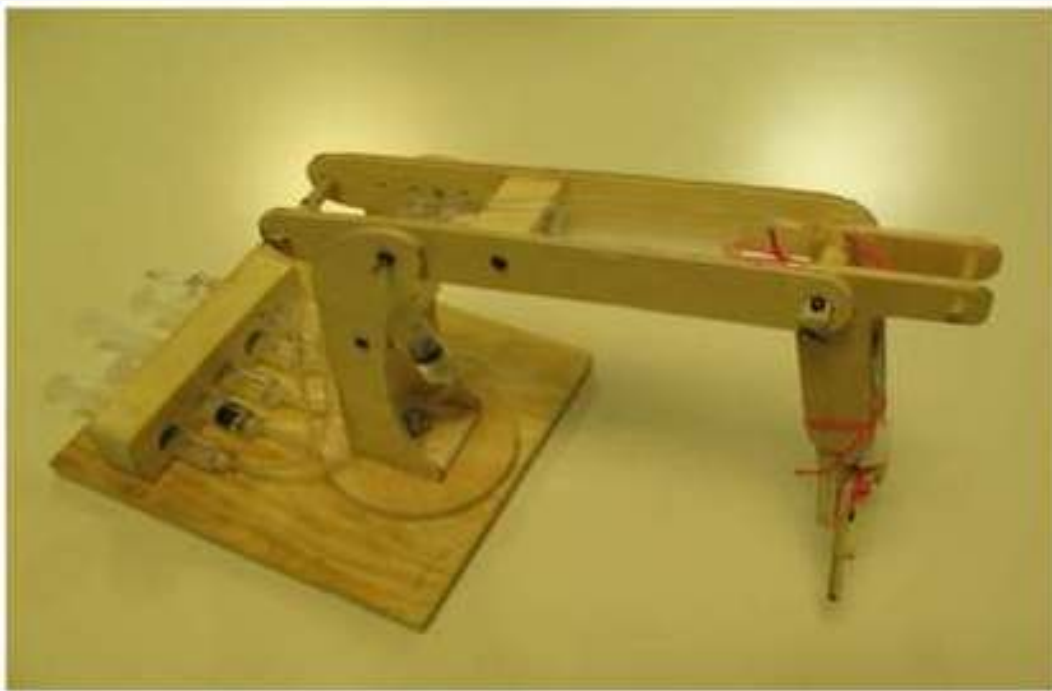
The complete development of the parts was



brought out in the machine shop. Wood was selected as raw material for the weight factor and also due to its ease of being machined. Using different power tools and putting our own effort, all the parts of the mechanism were prepared according to the dimensions pre-decided. First the entire set-up or mechanism was prepared in "SOLID WORKS" software and similar calculations were done to bring out the prototype and make it work effectively and efficiently.

### CONCLUSION

The prepared mechanism has been successfully constrained and executed to carry out the required work of picking up objects like table tennis balls and to put them into glasses placed at different location. With a little more time and effort, this can be further developed with add-on capabilities and features like, automated syringing, increased and flexible usage and an aesthetically pleasing design.



## IoT PROJECTS: SMART CITY:

Omkar Patil  
TYIF

Sectors that have been developing smart city technology include government services, transport and traffic management, energy, health care, water and waste. Smart city applications are developed with the goal of improving the management of urban flows and allowing for real time responses to challenges. Major technological, economic and environmental changes have generated interest in smart cities, including climate change, economic restructuring and the move to online retail and entertainment, ageing populations, and pressures on public finances. The European Union (EU) has devoted constant efforts to devising a strategy for achieving 'smart' urban growth for its metropolitan city-regions. The EU has developed a range of programmes under 'Europe's Digital Agenda'. Examples of Smart City technologies and programs have been implemented in Southampton, Amsterdam, Barcelona and Stockholm.

### Smart city



### Structural health

Monitoring of vibrations and material conditions in buildings, bridges and historical monuments.

### Noise Urban Maps

Sound monitoring in bar areas and centric zones in real time.

### Smartphone Detection

Detect iPhone and Android devices and in general any device which works with WiFi or Bluetooth interfaces.

### Electromagnetic Field Levels

Measurement of the energy radiated by cell stations and WiFi routers.

### Traffic Congestion

Monitoring of vehicles and pedestrian levels to optimize driving and walking routes

### Smart Lighting

Intelligent and weather adaptive lighting in street lights.

### Waste Management

Detection of rubbish levels in containers to optimize the trash collection routes.

### Smart Roads

Intelligent Highways with warning messages and diversions according to climate conditions and unexpected events like accidents or traffic jams. Sensors attached to street lights and other outside urban furniture will measure footfall, noise levels and air pollution and this data will be used to prioritize delivery of other services.

### Smart Tech Buildings

Smart buildings will be able to react to information derived from sensor networks across the city to adjust ventilation and window settings based on the cross-

referencing of pollution levels and prevailing weather conditions in the locality. The system will support the needs of older and vulnerable people enabling them to live within their own communities for longer, therefore supporting social cohesion. Smart lighting solutions will mimic the spectral characteristics of

natural daylight in the home, office, or ward, helping to maintain the natural circadian rhythm and general well-being of those who are required to remain indoors.

### Inside a smart building



Some of the most important benefits from smart buildings have been in terms of energy conservation. The use of smart systems that recognize the changing occupancy profile of a building over the day and through the seasons have enabled huge

savings. But the benefits of smart technology are not restricted to energy conservation, either. Once you enter a smart building, there wouldn't be any surprises like a burst water pipe to encounter; intelligent sensors would have already detected pressure variation along pipes and communicated this information to avert a leak in the building. Structural health monitoring of the building can even be undertaken, by analysis of vibrations and material conditions within the structure. external aspects of life will also be enhanced. Improvements might involve being alerted to an open parking space that will fit your car size as you cruise up to a building. Once you have parked, you will be able to enter your home or workplace safely, as sensor networks, using a combination of audio, video, and vibration detection devices, will have detected unauthorized individuals entering restricted areas. IOT systems can also track the whereabouts of various items in a building through geo-location.

**Conclusion:** Globally, “The Internet of Things” is closer to being implemented than the average person would think. Some of the concerns prevailing are related to legal, ethical, security and social fields which are to be dealt with utmost care.



## NEW HORIZON ATLAS V 551- A PLUTO MISSION

Akansha Patil - TYIF

### Introduction:

“New Horizons” is an interplanetary space probe that was launched as part of NASA's New Frontiers program. Engineered by the Johns Hopkins University Applied Physics Laboratory (APL) and the Southwest Research Institute (SwRI), with a team led by S. Alan Stern, the spacecraft was launched to study Pluto, its moons and the Kuiper belt, performing flybys of the Pluto system and one or more other Kuiper belt objects (KBOs). It is the first mission in NASA's New Frontiers mission category, larger and more expensive than the Discovery missions but smaller than the Flagship Program. The cost of the mission (including spacecraft and instrument development, launch vehicle, mission operations, data analysis, and education/public outreach) is approximately \$700 million (Rs.46459000000.00) over 15 years

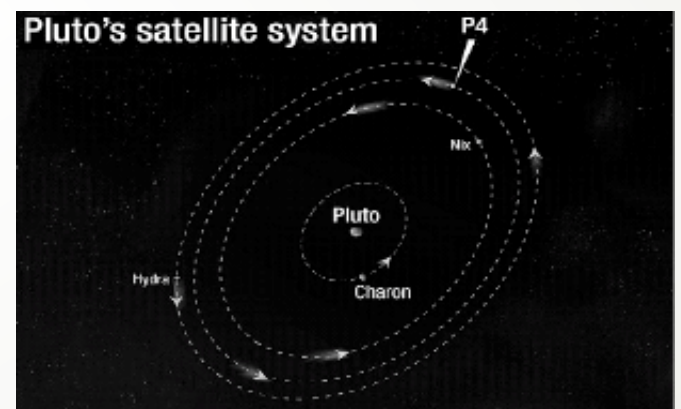


(2001–2016). The spacecraft was built primarily by Southwest Research Institute (SwRI) and the Johns Hopkins Applied Physics Laboratory. The mission's principal investigator is Alan Stern of the Southwest Research Institute

Fig.1 New Horizons - Space Craft

### Pluto's Satellite System

- Average distance from the Sun is 5.9 billion kilometres (3.7 billion miles), about 40 times farther out than Earth.
- Most elliptical (oval-shaped) orbit of the



nine planets, ranging from 4.4 billion kilometres (2.8 billion miles) to 7.4 billion kilometres (4.6 billion miles) from the Sun. - Latest close approach to the Sun was in 1989; between 1979-1999 it was closer to the Sun than Neptune.

- Pluto and Charon both rotate every 6.4 days. Charon also orbits Pluto once every 6.4 days, at an orbit of 19,636 kilometres (12,201 miles) from Pluto.

Pluto and Charon are locked in a gravitational resonance where not only does



Charon keep the same face to Pluto but also Pluto always sees the same face of Charon. Pluto's smaller moons are roughly two to three times farther from Pluto than Charon, and roughly 10-20% of Charon's size.

### Physical Characteristics: Pluto

- Exact diameter is uncertain to within about 50 kilometres, but close to 2,360 kilometres (1,466 miles); about two-thirds the diameter of Earth's moon.
- Surface composition includes nitrogen, carbon monoxide, methane and water ices. - Many other materials may also be present but undiscovered.
- Has a tenuous but complex atmosphere made mostly of nitrogen, with traces of methane, carbon monoxide, and some heavier hydrocarbons. The upper atmosphere has a significant amount of free hydrogen. - The atmosphere undergoes extreme seasonal changes as Pluto orbits the Sun.
- Atmospheric surface pressure is currently about 100,000 times less than on Earth, about 600 times less than on Mars.
- Low surface gravity, about 6% of Earth's.
- Estimated surface temperature is about minus-233 degrees Celsius (minus-387 degrees Fahrenheit) with strong variations across the surface.
- Has a density about twice that of water, indicating it is composed of a mixture of ice and rocky material.
- With ranges of very bright and dark areas, Pluto's surface has more

contrast than any other planet in the outer solar system.

Fig.3 Pluto and Charon

### Charon:

Charon is the largest of the five known moons of the dwarf planet Pluto. It is a very large moon in comparison to its parent body, Pluto. Its gravitational influence is such that the barycenter of the Pluto–Charon system lies outside Pluto.

### Physical Characteristics

- Diameter is about 1,200 kilometres (745 miles), the largest satellite relative to the planet it orbits.
- Surface known to be mostly water ice, possibly also including ammoniated hydrates.
- No detectable atmosphere (from Earth-based studies).
- Like Pluto, its density (about twice that of water) indicates it is composed of a mixture of ice and rocky material.

### Launch Vehicle of New Horizon Atlas V 551

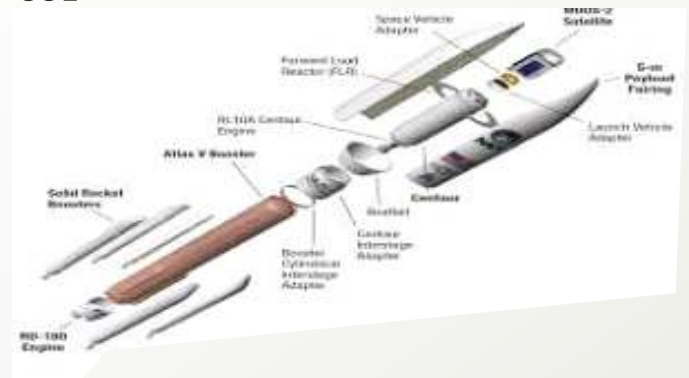


Fig. 4 Exploded view of launch vehicle

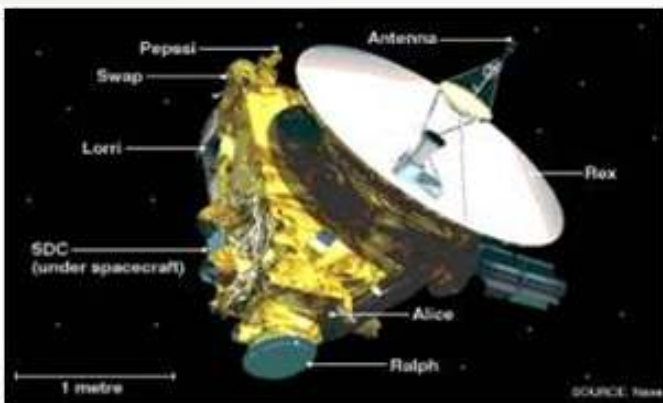
### Science Payload: Instruments in New Horizon

New Horizons carries seven instruments, three optical instruments, two plasma instruments, a dust sensor and a radio science receiver / radiometer. The instruments are to be used to investigate the



global geology, surface composition, surface temperature, atmospheric pressure, atmospheric temperature and escape rate of Pluto and its moons. The rated power is 21 watts, though not all instruments operate simultaneously. In addition, New Horizons has an Ultrastable Oscillator subsystem, which may be used to study and test the Pioneer anomaly towards the end of the spacecraft's life.

Fig.5 Science Payload- Instrumentation in New Horizons



**Ralph:** Visible and infrared imager /spectrometer; provides colour, composition and thermal maps.

**Alice:** Ultraviolet imaging spectrometer; analyzes composition and structure of Pluto's atmosphere and looks for atmospheres around Charon and Kuiper Belt Objects (KBOs).

**REX:** (Radio Science EXperiment) Measures atmospheric composition and temperature; passive radiometer.

**LORRI:** (Long Range Reconnaissance Imager) telescopic camera; obtains encounter data at long distances, maps Pluto's farside and provides high resolution geologic data.

**SWAP:** (Solar Wind around Pluto) Solar wind and plasma spectrometer; measures atmospheric "escape rate" and observes Pluto's interaction with solar wind.

**PEPSSI:** (Pluto Energetic Particle Spectrometer Science Investigation)

Energetic particle spectrometer; measures the composition and density of plasma (ions) escaping from Pluto's atmosphere.

**SDC:** (Student Dust Counter) Built and operated by students; measures the space dust peppering New Horizons during its voyage across the solar system.

### Goal

The goal of the mission is to understand the formation of the Pluto system, the Kuiper belt, and the transformation of the early Solar System. The spacecraft will study the atmospheres, surfaces, interiors and environments of Pluto and its moons. It will also study other objects in the Kuiperbelt. By way of comparison, New Horizons will gather 5,000 times as much data at Pluto as Mariner did at Mars.

### The Journey

New Horizons launched on Jan. 19, 2006; it swung past Jupiter for a gravity boost and scientific studies in February 2007, and conducted a six-month-long reconnaissance flyby study of Pluto and its moons in summer 2015, culminating with Pluto closest approach on July 14, 2015. As part of an extended mission, pending NASA approval, the spacecraft is expected to head farther into the Kuiper Belt to examine another of the ancient, icy mini-worlds in that vast region, at least a billion miles beyond Neptune's orbit. Sending a spacecraft on this long journey is helping us to answer basic questions about the surface properties, geology, interior makeup and atmospheres on these bodies.

**Conclusion:** Specifically, the mission's science objectives are to map the surface composition of Pluto and Charon. Additionally it tries to gather answers to certain frequently raised queries about Pluto's atmosphere, surface, geological structures, solar wind particle's interactions and atmosphere around Charon etc. Let us hope the mission would succeed in attaining most of the goals and will open up new avenues.

## DREAMS CREATE A WORLD OF OUR OWN

Dreams are an important parts of man's life whether he is awake or slept, man loves dreaming. Dream takes us to a different world, a world of our own a world where no one else can have any access, an imaginary world where often every impossible thing becomes possible.

Stop dreaming and we come back to the same old world of limitations and deadlines. Nothing works the way we want and we face many setbacks, disappointments, frustration and failures. All inventions and discoveries are a result of man's dream. Great novels and stories and the scripts for films and plays originate from a mind which imagined and dreamt. Great plans and operations were once a minuscule dreams in the mind of the man.

A dreamer is a happy man. Asleep or awake, he is in his own world, creating his own thoughts, his own thrills. Whether one agrees or not, don't we all love to go to sleep and to dream and don't we all have 'wake up after that, yes!' A dream world is our world of happiness.

Shruti Nitin Pansare-TYCM

### **A Home Away from Home**

After having the day well-spent,  
I thought about what it all meant.  
Staring out at the bustling crowd,  
Listening to laughter in the room,  
Voice of friends some soft some loud,  
Hostel is a place where students bloom.  
The bell replace the mother's voice,  
Roommates fill the siblings spot,  
Rules are followed-not father's choice,  
Tasks are done on the dot.  
Family recalled, but for days,  
Soon it all falls into place.  
Freedom seems better than elder's ways,  
Smile play on every face.  
But don't we remember our home?  
That once had been our castle,  
That shielded us from every storm,  
That took our tantrum with no hassle.  
Do we forget those?  
Who made us what we are,  
Gave us what we chose,

Watched over us, even from far.  
What about all the times?  
When she sat by us day and night,  
When he bought gifts with his dimes,  
When they spent their lives to make our right.  
Why does nature force us to leave?  
All the love and care we need.  
For a new future we may weave,  
And a free life we may lead.  
But what a heavy price we give  
Without them how do we live?

Apurva Lakeshri  
SYIF





## THE ABCs OF HAPPINESS

Aspire to reach your potential  
 Believe in yourself  
 Create good life  
 Dream about what you might become  
 Exercise frequently  
 Forgive honest mistakes  
 Glorify the creative spirits  
 Humour yourself and others  
 Imagine great things  
 Joyfully live each day  
 Kindly help others  
 Love one another  
 Meditate daily  
 Nurture the environment  
 Organize for harmonious action  
 Praise performance well done  
 Question most things  
 Regulate your own behaviour  
 Smile at ten  
 Think rationally  
 Understand yourself  
 Value life  
 Work for common goal  
 X-ray and carefully examine problems  
 Yearn to prove

Jayesh Deshmukh (SYIF)

## I am a Soldier

I am not a swimmer, but I swim  
 I am not a climber, but I climb  
 I am not a driver, but I drive  
 I am not an engineer, but I built  
 I am not a shooter, but I shoot  
 I am not a runner, but I run  
 I am not a pilot but I fly  
 I am not a leader, but I lead  
 I am not a who I am  
 I am a soldier  
 My duty is my passion ,my passion is  
 my freedom,  
 I left my father ,I left my mother,  
 I left behind my sister and brother,  
 I came to stand where the country  
 ends ,  
 I came to fight where the enemy  
 stands,  
 I don't bother about Sunday, I don't  
 bother about Holiday,  
 When the ball hits a cricketer ,the  
 world get worried,  
 When the bullet hit me, I get buried,  
 I don't care about weather, because I  
 care about my mother,  
 I'll live I'll kill, I'll fight till my last  
 blood drop,  
 Because I had promised my mother  
 that I'll come one day,  
 Holding the flag high on my arms or  
 covered on my body  
 I am not who I am, I am a soldier

Atharv Salunkhe-SYME





I LOVE YOU, Dad and want you to know,  
 I feel you are there wherever I go.  
 Whenever I have problems, you are there  
 to support,  
 The way you have helped me would make  
 quite a list.  
 Your wisdom and knowledge have shown  
 me the way,  
 And I'm thankful for you as I live day by  
 day.  
 I don't tell you enough how important you  
 are,  
 In my world you're a bright shining star.  
 You have a place of respect and honour  
 Deep within my heart.  
 You've been my super hero, DAD,  
 Right from the very start.  
 Without you, Dad, I wouldn't be anywhere  
 The person I am today  
 You build a strong foundation  
 No one can take away.  
 I have grown up with your values,  
 And I will do my best,  
 So here to you, Dear Father  
 From your forever grateful daughter.

Bhautik Tandel  
 (TYCM)



## Look Twice Then Think

Today teenagers are considered as a trouble with a big capital 'T' by innumerable adults. It's sad but is a fact. It is all too common that our 'attitude' and our behaviour is sometimes was more insulting to the world.

We all have seen news articles such as Gang-rape, scam of so many crores, Leaders or criminals. What we have done about it? Some post it on social networking sites for few days and some do not even bother to do so. Teens should stop ignoring and start changing it.

I always feel that the casual attitude of teenagers towards nation is improper. We all have heard that youth is the future, but unfortunately youth does not have any interest in preparing for a good future. So can we say youth is imperfect? But who is perfect? May be some other teen may be thinking the same when I am writing this. I am sure, young people may start to burst with creativity and may use their knowledge for making our country a better developed nation. I know that teen will look at the situation of our country and will improve it.

Teenagers will become a trendy treasure with the big capital 'T' of our country.

Shakir Tisekar-TYCM



## Best out of Waste bike

Hi guys my name is Sachin Gadhave, I am a student of mechanical engineering studying in Bharati Vidyapeeth, my hobby is to build things from waste material, I have keen interest in automobiles also my dream job is to own a car custom shop which would overhaul also modify the cars maybe new old wrecked. At first I used to draw sketches of bikes and cars but now I have stepped ahead towards getting practical with the technical parts, started with working in one of my friends garage also started doing household appliances repairing which made me self sufficient about technical knowhow.

I would like to share with you my first ever working model a Toy car made from waste...below are the procedural methodology of how I made it-

### Materials Used-

Used refills and Pens, Used Soda cans, Wax candles, Loose toys parts, Insulating tape, Filling material

Using above materials I commenced my so called home made project. With the help of Google guru I assembled the materials and the product was taking a bit fair shape.

Firstly, I sketched the product on canvas which a toy bike. I selected the various scrap parts which were now to be Useful components to my Toy bike. Then Melted the plastics parts refills, pens, soda cans to join the basic frame of my toy Bike. Using adhesives gums and wax candles fix each components to each other as per design sketched. Using Used cricket Bat handle grips made the rubber tyres grips. The attached the small DC motor from ragged toy and the battery attachment assembly. Installed the power on/off button to the Toy Bike . Check the working but by Gods Grace no problem so incurred.

I felt so proud of me that I single handedly completed the task, my first ever working model which was top most achievement in my life. This encouraged me and curiosity in me to know more in this functional knowledge which is because I joined the engineering field that to in Mechanical Department. During this year I submitted this Toy bike in college as mini project under Head of "BEST FROM WASTE" which had a moral of Renew and reuse as well as a satire to aware public about optimum utilization of materials and try avoiding wastage which would lessen the pollution as well as secures our green world.

Aditya Joshi-syce  
(SYCE)

## Best out of Waste bike





## Border Security Force

The Border Security Force (BSF) is the primary Border police force of India. It is one of the five Central Armed Police Forces of the Union of India; it was raised in the wake of the 1965 War on 1 December 1965, "for ensuring the security of the borders of India and for matters connected therewith". It is a Central Armed Police Force charged with guarding India's land border during peace time and preventing transnational crime. It is a Union Government Agency under the administrative control of Ministry of Home Affairs. The BSF has its own cadre of officers but its head, designated as a Director-General (DG), since its raising has been an officer from the Indian Police Service. It is an Armed Force of the Union of India tasked with various assignments from time to time. The BSF has grown exponentially from a few battalions in 1965, to 186 battalions with strength of 2.4 lakh (240,000) personnel including an expanding air wing, marine wing, artillery regiments, and commando units. It currently stands as the world's largest border guarding force. BSF has been termed as the First Wall of Defense of Indian Territories. It currently stands as the world's largest border guarding force. Every evening, at the Wagah, Husainiwala & Sadque Border that is the international border of India and Pakistan, the BSF together with the neighboring country's border guarding force which is the Pakistan Rangers do a military drill which both the forces from each country participate in the daily ceremony. This ceremony attracts thousands of spectators domestically and internationally from both countries. During this ceremony both the countries try to show their power and aggression about each other and we can feel that.



Wagah Border Ceremony



Commander at Wagah Border

Creek Crocodile Commando is the elite commando force of BSF. It is Rann of Kutch (an extensive salt marsh of western India and southeast Pakistan between the Gulf of Kutch and the Indus River delta. It was the scene of major border disputes in 1965 and 1971). Creek (Gujarat): In order to thwart landing of terrorists through the sea route, BSF has formed its first commando unit—Creek Crocodiles—to man the hostile creek area where India shares a border with Pakistan.

Creeks are a very hostile terrain, constituting numerous raised grounds having mangroves and a network of water channels which are quite shallow where all movements are tide dependent. Creek Crocodiles are trained to thwart any evil designs from across the border, BSF commandant Pushpendra Singh Rathore, who had created and trained the commando unit at Koteswar outpost of BSF, said.



"We have kept three things in mind while selecting cadets for the commando including swimming and marine diving performance, firing abilities and endurance to work in the rough creek, The Crocodile units have 42 commandos at present and they are undergoing vigorous training, he said.

BSF have high quality equipment which is used while patrolling the border of our country they work in cold area, in desert and save us from any terrorist activities. They work even during the festival times so that we can celebrate it happily. So that's it is called as India's first line of defense. So try to be the part of it and feel the pride of being the part of it.

Sai Paikade-TYCM



## BIOGRAPHY

### 1. Bill Gates

#### **Background-**

- Mr. Bill Gates was born on October 28, 1955 in Seattle, Washington.
- He is the son of William H. Gates II and Mary Gates

#### **Achievements and Awards-**

- He is the Chairman and Chief Software Architect of Microsoft Corporation, the worldwide leader in software services
  - Gates developed a version of the programming language –BASIC for the first microcomputer the MITS Altair
  - He was the richest person in the year 2005-2006
  - He founded the Bill and Melinda Gates Foundation
- 

### 2. Azim Premji

#### **Background-**

- Azim Premji was born on July 24, 1945
- He is a graduate in electrical engineering from Stanford University, U.S.A.
- Premji firmly believes that ordinary people are capable of performing Extra-ordinary things.

#### **Achievements and Awards-**

- Azim Premji is the Chairman and CEO of Wipro Technologies, One of the largest software companies in India
  - Premji started off Wipro with a simple vision to build an organization on a foundation of values. Azim Premji is an Indian businessman and he was the richest person in the country (from 1999 to 2005)
  - He was adjudged the “Businessman of the year 2000” by Business India.
- 

### 3. Linus Torvalds Founder of Linux

- Linus Torvalds is a Finnish computer scientist who developed Linux operating system.
- He was born on December 28, 1969 in Helsinki, the capital of Finland, as the son of Anna and Nils.
- When Linus was ten years old, his grandfather, a Statistics professor at University of Helsinki purchased a Commodore VIC 20 computer
- Linus served as an assistant to his grandfather by entering data into grandfathers “programmable Calculator” just for fun he taught himself some simple programs by reading the interested in MINIX, a small unit like operating system developed for educational purposes.
- Torvalds decided to develop an operating system that exceeded the MINIX standards. He called it LINUX, a contraction for Linus minix

- Netscape communication for corp, corel corp .oracle and other companies announced plans to support LINUX as an inexpensive alternative to windows.

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#### **4. Bill Hewlett and Dave Packard – Founder of Hewlett-Packard (HP)**

- Dave Packard and bill Hewlett were two engineering classmates from Stanford UNIVERSITY.
  - They together formed a company known as Hewlett-Packard company \*In 1972, Hewlett Packard company introduced the world's first pocket scientific calculator the HP-35
  - Hewlett Packard introduced the first ink-jet printer for personal computers which was Portable.
  - In 1984 HP introduced its First Laser Jet printer, which becomes the world's most popular Laser printer for professional Desktop.
- 

#### **5. Blaise Pascal**

##### **Background**

- Blaise Pascal was born as Clermont on June 19, 1623.
- He was son of Antoinette Begon and Etienne Pascal. His father was a local Judge as Clermont.
- In 1631 Etienne moved with his children to Paris.
- Etienne decided that he would educate his son who had already displayed exceptional ability.

##### **Achievements**

- In 1641 at the age of eighteen Pascal Constructed the first arithmetical machine.
  - He invented a calculating machine called Pascaline
  - \* He also made major Contribution to the number theory and geometry.
- 

#### **6. Charles Babbage-**

##### **Background**

- Charles Babbage was born in London on Dec. 26, 1791.
- He was the son of Benjamin Babbage, a London banker.

##### **Achievements**

- In 1821, Babbage invented the Different Engine to Compile mathematical tables.
- He also invented the Analytical Engine (1856) Which had so of the characteristics of today's computer's.
- Charles Babbage is also known as the 'father of computers'.
- Charles Babbage published Logarithms tables of natural number.
- \* He died at his home in London on October 18, 1871

**7 Mr. N.R. Narayan Murthy****Background**

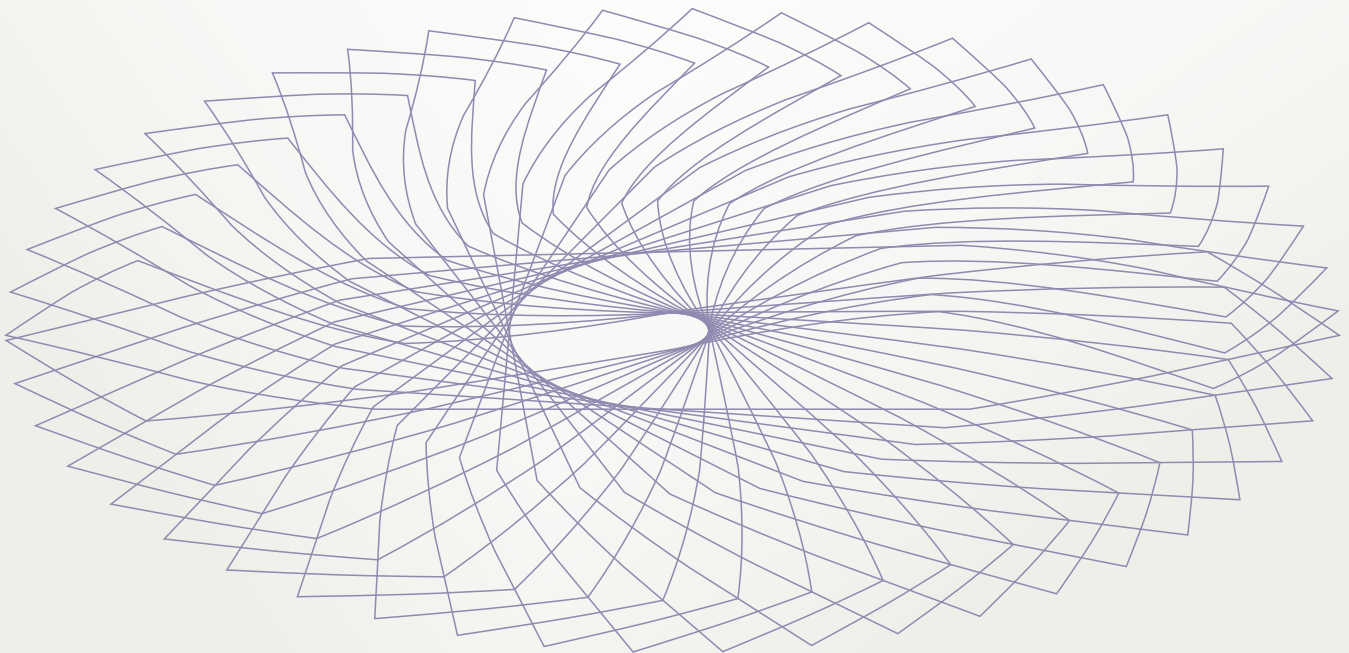
- Mr. N.R. Narayan Murthy was born on August 20, 1946, in Karnataka, India .
- He obtained his BE in electrical engineering from university of mysore in 1967
- He obtained his master of technology from Indian Institute of Technology, Kanpur in 1969

**Achievement and Awards**

- He began his career with patni computers at pune.
- He founded Infosys in 1981 along with his software professional
- He is the chief Mentor officer of Infosys.

**Mrs. Sudha Murthy**

- Mrs Sudha Murthy, Wife of N.R. Narayan Murthy has been contributing to society very actively through the Infosys Foundation.
  - She obtained her BE degree in Electrical Engineering, securing first rank in all semester in 1972 from BVB college of Engineering. Hubli
  - She obtained her MTech Degree in computer science securing first rank in 1974 from the Indian Institute of Science, Bangalore.
- 



## Mistakes

Everyone makes mistakes, no matter how perfect we think we all are. A lot of our mistakes go unnoticed and we don't learn from them, this can be because no one cares about it. But then, there are some mistakes that are unavoidable and ruin everything we have planned. Such serious mistakes go towards regret. Every person regrets something in their life even if they deny it. We regret not being with people we care about who they need us most. We sometimes regret saying things that seriously hurt them and may change the course of our lives.

The point I am trying to make is that everyone makes mistakes, no one is perfect. Then why do people try to be? Is it because they are scared of letting themselves down or is it just for showing off? The reason can differ person to person as everyone's attitude and way of looking towards life is different.

Being a human being, doing mistakes is in our blood but as we grow older we generally neglect our mistakes and don't learn from them. Some great men had already said, "Mistakes should only be done if one keeps the attitude of overcoming it." Everyone should overcome his mistake and then they will find that there is a brighter side of life. The brighter side of life is when a person is changed totally and he tries hard to avoid mistakes and looks for life in a positive attitude and stops taking life as granted. We might not be able to change the world but we can change our lives making the decision that we want to make and learning from the mistakes that happens...

Prajyot Menon  
SYCE

## The Tree of Life

This Tree  
Is not only a tree  
It is a friendly tree.  
That is always watching over you  
This tree  
Is not only a tree  
It is a magical tree  
That makes miracles happen  
Hopes become realities  
And never become always  
This tree is not only a tree  
It is where everything started  
It is the tree of life

Mukesh Choudhary-TYCH





## The New Teacher

Step in time and step in style,  
Bearing all the while a begininig smile ;  
Dresses neat and nicely pressed,  
But your mind fully obsessed ,with only  
The subject of the day to keep all doubts of  
boy.

Stall tall and trim in the hall and survey at  
once students all;

As you speak and move ,let your eyeballs  
rove,

so every student feels noticed

All through the lectured practiced.

Let high pitched be your voice, to suspend  
the surrounding noise;

Blessed by the subline soul of Socrates

Ask searching Questions ,to test and tease

Wandering and ogling eyes beware ,To  
refrain listening and escape your stare;

Check them all with questions

To make them all ,ponder and pore;

Stand not a statue on stage,

Nor pace like a panther in a cage;

Appear smart and neatly dressed, Bear a  
smile and not be depressed.

A dull and melancholy mood, makes no  
teaching good, write on board with clarity

With many a joke to please the falk ,

Now and then let a humour stroke;

Make your lecture lovable as a song ,

And the notes kept as a treasure for long  
Speak the language with a flawless flow,  
Unto the audience a countenance glow;  
Raised and noble is thy rendition,  
Trade not that high tradition;  
Ordained by almighty to teach,  
Is a chance to empower and preach  
Nothing better is there to be search,  
Allow not people to impeach;

With your pedagogy profound,  
And knowledge deep and sound,  
Struck with an awe extreme,  
Let them developed great esteem;  
Give the calling a godly grace and  
Desist from mercenary race;  
With will and pleasure bring light and cheer,  
To All Students , Oh dear !

Swati Srinivasan  
TYCH



## Recollections.....

People may change ,but memories don't,  
The collection stays eternally in our mind.  
Happy ones sad ones, recent and old ones,  
Completely random ones you shall find.

Some you'd want to forget,  
Some you'll want to relive,  
But these memories will never fade,  
Always remember this.

Many a times I fall into deep thoughts  
And recollect a fun ,old memory.  
I feel as if I'm actually living it,  
But oh! it just a reverie.

The time when I was just a kid,  
And didn't have any worries at all,  
Or the time when daddy would give me piggy  
backs,  
And I never feared I'd fall.

The time when my sister used to be my stylist,  
Or for random reasons I'd cry.  
Or when my granny used to sing for me,  
Sweet tunes and lullabies.

Then I come out of my daydream,  
That's the sad part; I have to get back to reality.  
I know new memories shall pile up in my mind,  
They may be miles away or just around the  
corner,  
I'll wait and I know these memories I shall soon  
find

## The Choice

Right now that ripples  
Every voice inside that whispers  
When the choices arise

You look up into the windy sky  
On route to your destiny  
Crushing the dried leaves  
Getting anxious as you pass by

Sip a radiant breath  
Mutter a witticism if you must  
You'd sing too, in the awe of solitary  
wanderlust

Every moment you're opening  
Every moment you're closing  
Let your guard down  
Make sure you have no armour left

Right now, choose to be open  
Give fully or wait forever  
How does the choice feel?

Pranay Pal  
TYCH



## I fopkj

जीवनाचे नंदनवन करण्याचा एकच मार्ग आहे, तो म्हणजे परीश्रम.

आपले जीवन सुखी व्हावे, असे प्रत्येकाला वाटत असते. तसेच आनंदी जीवन जगता यावे, दुःख अजिबात वाटणीला येऊ नये, सर्वत्र यश मिळावे, इच्छिलेल्या सर्व गोष्टी मिळाव्यात. पण हे सर्व होण्यासाठी खूप परीश्रम केले पाहिजे दिर्घ परीश्रमाने या गोष्टी आपणास मिळतात. हेच जीवनाचे नंदनवन होय.

पण परीश्रम करताना स्वतःजवळ आत्मविश्वास असणे आवश्यक आहे.

आत्मविश्वास हि यशाची गुरुकिल्ली आहे.

आपण हाती घेतलेल्या कार्यात यश मिळावे असे प्रत्येकाला वाटते. परंतु त्यासाठी डोळसपणे आणि दिर्घ परीश्रम करावे लागते, तर ते यश निश्चित मिळते. यासाठी आत्मविश्वास पाहिजे. त्यामुळेच यश मिळण्यासाठी आपल्या हातून महान प्रयत्न होतात. आत्मविश्वास नसेल तर यश कसे मिळणार ?

म्हणून परीश्रम करा, आत्मविश्वास ठेवा, यश नक्की मिळेल आणि जीवनाचे नंदनवन होईल.

Aadiya Mane  
TYEE



## वेळ नाही

प्रत्येक आनंद आहे लोकांच्या पदरात  
परंतु हस्यासाठी वेळ नाही  
दिवसरात्र धावणाऱ्या जगात  
जीवनासाठी वेळ नाही  
सर्व नात्यांना तर आपण मारुन टाकल  
आता त्यांना पुरायलाही वेळ नाही,  
सर्व नावे मोबाईलमध्ये आहेत  
पण मित्रांसाठी वेळ नाही,  
डोळ्यांत खूप झोप आहे  
पण झोपायलासुद्धा वेळ नाही,  
मन तर आहे दुःखाने भरलेल  
पण रडायलाही वेळ नाही,  
पैशांच्या स्पर्धेत असे धावत आहेत  
की थकायलाही वेळ नाही.  
दुसऱ्यांच्या उपकारांची काय किंमत करणार  
जिथे स्वतःच्या स्वप्नांसाठी वेळ नाही  
आता तू सांग जीवना!  
या जीवनाच काय होईस  
जिथे प्रत्येक मारणाऱ्याला जगण्यासाठीचा वेळ नाही

Riya Gorhade  
TYEJ



## बाप....

आईचं गुणगाण खूप लेले  
पण बिचाऱ्या बापाने काय केले आहे.  
बिकट प्रसंगी बापच सदा सोडवी  
आपण फक्त गातो आईचीच गोडवी  
आईकडे असतील अश्रुंचे पाट  
तर बाप म्हणजे संयमाचा घाट.  
आठवते जेवण करणारी प्रेमळ आई  
त्या शिंदोरीची सोयही बापच पाही....  
देवकी यशोदेचं प्रेम मनात साठवा  
टोपलीतून बाळास नेणारा वासुदेवही आठवा  
रामासाठी कौशल्येची झाली असेल कसरत  
पुत्र वियोगाने मरण पावला दशरथ

काटकसर करुन मुलास देतो पॉकेटमनी  
आपण मात्र वापरे शर्ट पॅन्ट जुनी  
मुलीला हवे ब्युटीपार्लर नवी साडी  
घरी बाप आटपतो बिना साबणाची दाढी

वयात आल्यावर मुले आपल्याच विश्वात मग्न  
बापाला दिसते मुलांचे शिक्षण पोरीचे लग्न  
मुलाच्या नोकरीसाठी जिने चढुन लागते धाप  
आठवा मुलीच्या स्थळांसाठी उबंरठे झिजवणारा बाप  
जीवनभर मुलांच्या पाठी बापाच्या सदिच्छा  
त्यांनी समजून घ्यावं हीच माफक इच्छा...

Khan Gulam-TYCH





## तो बाप असतो

बाळांतपण झाल्यावर धावपळ करतो  
 औषध घेतो चहा, कॉफी आणतो  
 पैशांची जुळवाजुळव करतो  
 तो बाप असतो  
 सगळ्यांना ने आण करतो  
 स्वयंपाक ही करतो  
 सिजरीन नंतर बायकोला त्रास नको,  
 म्हणून बाळ रडलं तर रात्रभर जागतो  
 तो बाप असतो  
 चांगल्या शाळेमध्ये पोरांना टाकायची धडपड करतो  
 डोनेशन साठी उधार आणतो,  
 वेळ पडली तर हातपाय पडतो  
 तो बाप असतो  
 कॉलेज मध्ये सोबत जातो, हॉस्टेल शोधतो  
 स्वतः फाटक बनयान घालून  
 तुम्हाला जिन्स जी पॅट घेऊन देतो  
 तो बाप असतो  
 स्वतः टपरा मोबाईल वापरून तुम्हाला  
 स्टायलिश मोबाईल घेऊन दोतो  
 तो बाप असतो  
 तुमच्या प्रिपेड चे पैसे स्वतः भरतो  
 तुमचा आवाज ऐकण्यासाठी तरसतो  
 तो बाप असतो  
 लव मॅरिज करायला कोणी निघाला तर खूप चिडतो  
 'सगळ नीट पाहिल का?' म्हणून खूप ओरडतो  
 'बाबा तुम्हाला काही समजत का?' अस ऐकल्यावर  
 खूप रडतो  
 तो बाप असतो  
 जाताना पोरगी सासरी, धायमोकलून रडतो  
 माझ्या चिऊला नीट ठेवा  
 असे हात जोडून सांगतो  
 तो बाप असतो

Nigudkar Shubham  
FYME

## साद आईची

जा घातला  
 साद घातली बापानं, पण तु शाळेमधी  
 पण बाळा मला तुझ्या घरी घेऊन जा  
 धुनी-भांडी करीन मी, केरकचरा भरीन मी  
 पुरणपोळ्या, अळूवड्या महिन्या मागून महिने शेवटी  
 वर्ष सरून जाते  
 वृद्धाश्रमाच्या पायरीवर, वाट तुझी पाहते  
 भीजून जातो पदर, अन मन रिते राहते  
 कधीमधी मात्र तुझी मनी ऑर्डर येते  
 पैसे नकोत या वेळी, तुच येऊन जा  
 बाळा मला तुझ्या, घरी घेऊन जा  
 तुझा बा होता तोवर काळ बरा गेला  
 तुझी आठवण काढत, उघड्या डोळ्यांनी गेला  
 शेवटपर्यंत सांगत होता, लेक माझा भला  
 तू मोठा साहेब, त्याचं मोठ कौतुक त्याला  
 माझ्या ही हृदयात फोटो तुझा, तू पाहून जा  
 बाळा मला तुझ्या घरी घेऊन जा  
 दुष्काळाच्या काळी, तुझा जन्म झाला  
 तुझ्या दुधासाठी, आम्ही चहा सोडून दिला  
 वर्षाकाठी एक कपडा, पुरवून पुरवून घातला  
 हवं तर तू हे, सगळं विसरून, तुझ्यासाठी रांधीन मी  
 नातवंडाच दुखलंखुपलं, सगळकाही बघेन मी  
 घाबरु नकोस त्याची आजी आहे, अस नाही सांगणार  
 मी तुझ्या घरची कामवाली म्हणून तरी घेऊन जा  
 पण बाळा मला तुझ्या घरी घेऊन जा  
 थकलेरे डोळे आता, प्राण कंठी आले  
 तुझ्याविना जगणे आता मुश्किल झाले  
 विसरु कशी तुला मी तुझ्याच मुळे आई झाले  
 बाळ माझा 'कुलभूषण' पोरकी मी झाले?  
 आता सेवटी माझ्या थडग्यापाशी, 'आई' म्हणून जा  
 आणि जमलच तुला तर हा वृद्धाश्रम पाहून जा....



Manasi Mhatre  
TYEJ

## प्रिय बाबांसाठी .....

तुमचा हात हवा होता सदा पाठीवर,  
थोपटुन कौतुक करायला नेहमी यश मिळवल्यावर .

मी अजुन सुदधा दचकुन जागी होते मधीच,  
तुमची काळजी सतावत राहते उगीच

का इतक्या लवकर सोडून गेलात माझ गाव  
वापाविना लेक अस घेतात लोक माझ नाव

वरवरच्या कौतुकांनी समाधान माझ होत नाही  
काय करू तुमच्या शावासकीशिवाय मन माझ भागत नाही

पोरकेपणाची माझ्या भोवती का ठेउन गेलात नाळ  
का खरच कच्ची होती तुमच्या माझ्यातील नाळ

तिथ कोन आहे तुमच्याशी बोलायला भरपुर  
उगीच राडून नका दावून स्वताचा ऊर

वधा पप्पा आता मी रडत नाही अपयश आल जरी  
मला ठाऊक आहे तुम्ही गेला आहात देवाघरी

कीतीही रडायला आल तरी विलकुल मी रडत नाही  
कारण मी हसल्याशिवाय चैन तुम्हाला पडत नाही

पन रोज रात्र झाली की तुमच्या आठवणींची झुळूक येते  
अंथरूनात पुसून डोळे गप मी झोपी जाते

कॉलेजमध्ये वघते जेव्हा मुलांमधली संस्काराची कमी  
अभिमान वाटतो मला तुम्ही केलेल्या संस्कारांचा कीती आहे मी लक्की

वधा तुमची सोनाली किती समजुतदार झाली आहे  
कलेक्टर होण्याआधीच किती कठोर झाली आहे

आजीवात म्हनजे आजीवात काही कमी पडु  
देनार नाही माझ्या भाऊ वहीणीला  
तुमची काळजी मात्र घ्यायला सांगा देवाला

मी आता थकलीय तुम्हाला ढगांमध्ये पाहून  
या आता भेटायला नजर तिथली चुकवून

जमल जर का सृष्टी घ्यायला तर या निघुन असेच  
पोट भरत हो रोज पन मायेची भूक अजुन तशीच

Ritika Jadhav  
TYEJ



## दरपण

"उम्र भर गालिब यही भूल करता रहा,  
धूल चेहरे पे थी, और आइना साफ करता रहा"

मिर्जा गालिब

दर्पण कभी असत्य नहीं कहता। वह वास्तविक छवि को ही प्रतिबिंबित करता है। यह प्रतिबिंब सुन्दर तभी होगा जब छवि सुन्दर हो। जो सत्य है, वही शिव है, वही सुन्दर है। अतः अपनी अन्तरात्मा की शुद्धीकरण करनी चाहिये, भावनाओं को स्वच्छ रखना चाहिये। श्री रामकृष्ण परमहंसदेव जी के शब्दों में "जिस प्रकार मैले दर्पण में सूरज का प्रतिबिंब नहीं पड़ता, उसी प्रकार मलिन अन्तःकरण में ईश्वर के प्रकाश का प्रतिबिंब नहीं पड़ सकता"

हमारा यह विभाग दर्पण भी हमारे छात्र छात्राओं के विचारों को प्रतिबिंबित करता है। उन्होंने अपनी भावनाओं को लेखनी द्वारा सुन्दर कविताओं और लेखों के रूप में अभिव्यक्त किया है। यह लेखनी भी अद्भुत वस्तु है। इसमें विधाता के सृष्टि को समेटकर शब्दों के रूप में प्रस्तुत करने की अद्भुत ताकत है। कहीं व्योम की व्यापकता है, तो कहीं सागर की गहराई है। कहीं निर्झर के नृत्य का ताल है, तो कहीं नदी के तरंगों के संगीत का धुन है। इन लेखों को पढ़कर इन्सान इनकी सुन्दरता में खो जाता है। आशा है आप हमारे छात्रों के इस प्रयास की सराहना करेंगे।

मधुमिता उकिल  
हिंदी विभाग

## दोस्ती

दोस्ती सबको पता ही है, दोस्ती क्या होती है। दोस्ती के कितने प्रकार होते हैं।

अच्छी दोस्ती, सच्ची दोस्ती और भी बहुत सारे नाम होते हैं। दोस्ती का दूसरा नाम प्यार भी होता है।

कोई भी लड़का और लड़की जो बात अपने भाई, बहन, माँ या पिता से ना कहकर वो बात जिसको बताते वो है दोस्त।

एक पल के लिए सोचो अगर आप जैसे दोस्त ना होते तो हम क्या होते?

क्या क्या नहीं कर पाते? nursery में गुमा हुआ bottle का ढक्कन कैसे ढुंढ पाते?

LKG में ABCD का गुरुर किसे बताते? UKG में आकर हम किसकी Pencil उड़ाते?

1st में button वाला compass किसे दिखाते?

2nd में गिर जान पर हाथ किस का पकड़ते?

3rd में एक दिन school ना आने पर दूसरे दिन notebook किसकी लाते?

4th में late से जाने पर डांट किसकी खाते?

5th में अपना tiffin किससे share करते?

6th में teacher से पिटने पर किसे चिढ़ाते?

7th में हम sports में किसे हराते?

8th में best friend कहकर किससे मिलाते?

9th में maths के सवाल के जवाब ना आने पर किस से हल करवाते?

10th में reproduction पढ़कर किसे देख मुस्कराते?

11th में अपना वाला, अपनीवाली का विषय किसे पढ़ाते और बताते?

12th में बिदाई समारोह में दुःखी होकर आँसू किसके कंधे पर गिराते?

फिर बाहर की दुनिया में हम कैसे कदम बढ़ाते?

यही तो प्यार है, ऐसे शब्द कहाँ से आते?

उसके मोबाइल नंबर से लेकर घरवालों तक सबको कैसे जान पाते. पेन ना लाने पर मदद किससे मांगते? फिर परीक्षा में उत्तर ना आने पर सर पकड़कर बैठ गए तो मदद करने की कोशिश कौन करता? अपने जन्मदिन का केक खुद ही तो नहीं खुद को लगा पाते? बेमतलब की बातों पर हम किस पर गुस्सा होते? और डिग्री मिलने की खुशी किसे बाते?

ऐसी अनगिनत यादें हम कैसे जोड़ पाते? दोस्तों के बिना हम साँस तो लेते मगर शायद ही जिंदगी जी पाते ऐसे होते है दोस्त सबसे अलग सबसे प्यारे. हर इन्सान की जिंदगी में एक तो ऐसा दोस्त होना ही चाहिए जो उसके सुख, दुःख, हँसी, खुशी, गम, हर चीज में, हर कदम पर उसके साथ हो ऐसा दोस्त हर इन्सान की जिंदगी में होना ही चाहिए

इस लिए शायद कहते हैं -

***Har Ek Friend Jaruri Hota Hai !!!***

Taikhoom Rajkotwala  
TYEJ







# 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 ● Sagareshwar Sahakari Soot Girni Ltd., 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