

శ్రీ వెంకటేశ్వర ప్రభుత్వ పాలీటెక్నిక్

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# SRISHTI

**THINK..CREATE..INSPIRE..**



Dr. A.P.J. ABDUL KALAM

**S V GOVERNMENT POLYTECHNIC  
TIRUPATI**

**STATE BOARD OF TECHNICAL EDUCATION  
ANDHRA PRADESH**

**Annual Edition - 2025-26**



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Creativity is what others see and thinking what no one else ever thought- Albert Einstein

We are delighted to publish our achievements in the year 2025-26 and grateful to faculty, staff and students. This magazine exhibits the hidden talents of staff and students, and their skill and willingness to contribute is the reason we stand here today with great pride and joy. Through Srishti, we present to you the literary and artistic skills of our staff and students. We also have a section to display of our project exhibits.

We are grateful for the relentless support provided by the editorial team. We express our deep sense of gratitude to all the authors and artists for their article and artwork contributions.

We express our deep sense of gratitude to each one of you who have made this issue possible. We hope that readers of this magazine will enjoy it as much as we did putting it together with immense pleasure to present the first issue of Srishti for 2025-26.



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**Editor-in-Chief**

Dr P Aparna,  
Lecturer in English

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# Literary Section

## A MOTHER'S SACRIFICE

This is a story of a woman who was widowed at a young age. She worked hard, sacrificed a lot and took care of her son and brought him up. But this society hurt the mother a lot. But the mother always gave joy to her son. The son was his mother's life. She never shared her sorrows with him. She always smiled. But a mother's prayers are very powerful. God lives in a mother's heart. And the mother's prayers were answered one day. The son became a great trader. And the world was shocked. The son filled his mother's life with joy. But happiness did not last long in the widowed mother's life. Because her son's life was filled with dedication. Then the son fell in love with a beautiful girl. And he was lost in her love. He declared his love to the girl and asked her to marry him.

The Girl agreed but she put a condition on hearing which the boy was terribly shocked. The girl said, "I will marry you when you bring you mother's heart tearing open her chest". The son thought "Oh my God! How callous is this girl?". He was saddened. He became depressed. He was surrounded by the girl's memories. But this matter could not be hidden from the mother. And the mother went to the son one night. There was a knife in the mother's hand. But she was very sure that she will wipe away her son's sadness and fill his life with joy.

The mother said.. "Son..! I have lived my life.. I have experienced Joy and sorrow. Your happiness is awaiting for you. Go and win your love. Marry that girl and always be happy. I will fulfill the duty of being a mother. Slash my chest with the knife and remove my heart. Tell her that you have fulfilled her condition by slashing the chest with a knife and removed the heart". The son hesitated. But the mother encouraged him. And then for the sake of the red colour of love, a son shed his mother's blood. The mother's soul blessed him to be victorious. The son picked up his mother's heart and he ran to meet that girl sweating all over. The son stumbled over a stone and fell. His mother's heart slipped from his hand. I am telling you the truth, do not think it to be a lie. Seeing the son fallen down, a sound emerged from the mother's heart... " Son, are you hurt..?"

This is the mother, whose heart even after death, spoke out seeing her son in pain.

This is Mother... Mother's affection.... Mother's love.... Mother's sacrifice.....

I CAN'T LIVE WITHOUT "MY MOTHER".

By VEERENDRA, 23018-EC-042.

## When the Lake Replies

The town legend spoke of a lake in the woods that echoed not just sound, but truth. People believed that if you spoke to it alone from the heart, the lake would answer. Shanmukh, an architect grappling with writer's block for a poetry competition, didn't believe these old stories. Yet, in a moment of defeat at dusk, he went to the lake. He hesitantly asked the stillness, "What should I do to get creative again?" A voice, faint yet clear, echoed across the water: "Maybe stop overthinking, and just feel alive."

Shanmukh froze; certain the lake had spoken. Unbeknownst to him, across the shore sat Priya, a fashion designer, venting her frustration from a bad day at work. She had shouted the exact same words to relieve herself. She too was shocked by the reply she heard from Shanmukh: "I can hear you". Each mistook the other's voice for the magical answer of the lake, leaving from opposite ends with a strange, undeserved calmness. Days turned into weeks, and both returned to the lake, drawn by the mystery, though they received no further reply. Unknowingly, they developed a shared habit of spending time by the water.

Their paths finally crossed during the Annual Water Lantern Festival. A strong wind blew Priya's lone lantern across the water to Shanmukh's side. As they both reached for it, their eyes met across the soft, pulsing light. This was their first real meeting, a quiet moment between two people who had already spoken to each other when they were unseen. The next evening, both returned, compelled by the lingering memory of the voice. Shanmukh approached Priya: "a strange question, but... were you here on last week Saturday?"

When he confessed, "I think... you were the one who spoke back to me that day," Priya's eyes widened. "Wait — so you were the lake?" she asked, and the air between them broke into freeing laughter. Sitting together, they pieced together the coincidence, realizing their separate heart cries had crossed, witnessed only by the still lake. What started as curiosity stretched into comfort. Shanmukh shared his creative struggles; Priya, her exhaustion from work. They found a rare, easy bond. The lake became their meeting place, a point of gratitude rather than superstition. Shanmukh began writing poems inspired by their talks, and Priya started sketching designs that were fluid and free. Their bond deepened, not in a rush of romance, but in the certainty of companionship. When Priya had to move to another city for six months, they promised to write letters in small verses and sketches. Shanmukh wrote: "Some days, I think the lake exists inside our eyes. And each time we miss each other, it ripples in us". The distance only affirmed their need for each other.

Upon her return, Priya went immediately to the lake. Shanmukh was there, waiting with a surprise. He had written a poem in dozens of glowing paper lanterns floating on the water. The final lines read: "You & I thought it was the lake replying to us— but it was between Me & You; witnessed by Lake". He presented her with an Origami Swan containing a silver promise ring engraved: "Two Souls, one Source". Priya smiled through tears as Shanmukh whispered, "I think it just hums when two hearts finally speak the same language." She asked, "So, it was you all along?" Shanmukh nodded: "It was always us; just took the long way along side."

They realized the legend wasn't about the lake replying, but about the universe finding two people asking the same question. Their journey began the moment they had mistaken each other for a miracle, becoming an untold proof of the lake's gentle love story.



**Y. Poornesh**  
23018-EC-066

# THE FUTURE DEPENDS ON WHAT WE DO AT PRESENT

The future is not a destination; it is a consequence of our present actions. Every decision we make, every step we take, and every effort we put forth today shapes the world we will inhabit tomorrow. The future is inherently uncertain, but it is also deeply connected to the choices we make in the present. Whether we are individuals, communities, or nations, our actions today determine the opportunities, challenges, and realities we will face in the years to come.

## THE POWER OF PRESENT ACTIONS

Our present actions have far-reaching consequences. For instance, the way we address environmental issues today will determine the health of the planet for future generations. Climate change, deforestation, and pollution are all pressing problems that require immediate attention. If we fail to take action now, the future would be marked by severe environmental degradation, leading to food shortages, natural disasters, and loss of biodiversity. On the other hand, if we prioritize sustainability, renewable energy, and conservation, we can create a future where the planet remains habitable and thriving. Similarly, the decisions we make about education, health care, and social justice will shape the future of our societies. Investing in education ensures that future generations are equipped with the knowledge and skills needed to innovate and solve problems. Ensuring access to health care and protecting the well-being of individuals and communities, reducing the burden of disease and improving quality of life. Promoting social justice and equality creates a more inclusive and fair society, where everyone has the opportunity to thrive.

## THE IMPORTANCE OF PLANNING AND FORESIGHT

While immediate action is crucial, planning and foresight are equally important. The future is not just a product of spontaneous actions, it is also shaped by deliberate choices and long-term strategies. Governments, businesses, and individuals must think ahead, anticipate challenges, and plan accordingly. This includes investing in research and development, fostering innovation, and creating policies that promote economic growth, social stability, and environmental sustainability. For example, countries that invest in renewable energy technologies today are positioning themselves to lead the global transition to a low-carbon economy in the future. Similarly, businesses that prioritize innovation and adaptability are more likely to succeed in an ever-changing market. Individuals who plan for their financial future, invest in their education, and take care of their health are better prepared to face the challenges that lie ahead.

## THE ROLE OF INDIVIDUAL RESPONSIBILITY

While governments and institutions play a significant role in shaping the future, individual responsibility is equally important. Every person has the power to make choices that contribute to a better future. Whether it's reducing waste, supporting ethical businesses, volunteering in the community, or simply being an informed and engaged citizen, individual actions collectively make a significant impact.

Moreover, individuals have the power to inspire and influence others. By setting a positive example and advocating for change, people can drive movements and contribute to societal progress. The future is shaped not just by large-scale policies and decisions but also by the everyday actions of millions of individuals.

### CONCLUSION:

The future is a reflection of our present actions. What we do today will determine the world we live in tomorrow. By making conscious choices, planning for the future, and taking responsibility for our actions, we can create a better world for ourselves and future generations. The future may be uncertain, but it is not predetermined. It is up to us to shape it through our actions, decisions, and efforts in the present.

### AS THE BHAGAVAD GITA SAYS:

“ MAMAI VAMSHO JIVA BHUTA SANATANAHA ”

( ALL LIVING BEINGS ARE ETERNAL PARTS OF ME )

JUST AS THE SUN REFLECTS IN MANY WATERS, THE DIVINITY IN ALL IS THE SAME.



**E. Meghana**  
**25018-C-084**  
**Section:B**

## Innocent Hopes, Silent Prayers

Every eye lash of mine  
falling frequently these days,  
When I asked the reason they say,  
Looking at the way I pray for him  
Holding the tiny lash on my hand  
Hoping for the God to listen it  
Being so innocent  
Makes it fall often  
Just in case  
One day the superstition gets true  
One day the God listens for real  
And those lashes falling  
Have a meaning  
Maybe  
Maybe the wishes come true a day..  
Maybe someday!!

## Tied by Fate, Torn by Time

We got the red string on our fingers,  
Tied up to each other,  
We ran apart for the future,  
Forgetting to hold the string tight,  
And look what  
What happened to the string  
The red string to our our fingers,  
It broke apart,  
Leaving us no sign,  
The fate was ours  
But we couldn't have the fate!  
The red string was tied up tight,  
But we could not hold it right  
We could not hold it right!

M.Tejaswini,  
DECE 3rd year

## **The Dream I Finally Held..**

This time my dreams are in a paper and as always the paper in my hand

I'm scared I can't hold of it again

As always

It's flying away on the tips of my fingers

And I took a deep breath

To hold it tight

To hold it tight and never let it go

Yes I fought for it with my own self

And yes

I got hold of the paper that was flying away

From the tips of my fingers

As always..

## **Reality, Buried in Love**

The river shines

With the moonlights

Hidden behind the clouds

Like moon behind the bars

Bars of love

The love buried beneath the doors

Doors of heart that are creaking

Windows are broken

Yet the haunting love is beautiful

Beautiful to kill

Yet to keep alive

Alive is the light beneath the doors

Beneath the windows

The love is alive

To make the moon light up every night

river shine brighter

Love is buried beneath the beauty

Everything is a muse for the poet, ...

reality is buried beneath love

**M.Tejaswini,  
DECE 3rd year**

## कलम का आशिक

मशहूर है शाहजहाँ मुमताज़ के इश्क में  
मशहूर है शाहजहाँ मुमताज़ के इश्क में... मजनूँ लैला के इश्क में  
पर अनदेखा रह गया वो आशिक...  
अनदेखा रह गया वो आशिक जो लिख रहा इन सबकी आशिकी उसके प्यार में

## इश्क की दस्तक

इश्क कभी कहकर नहीं आता,  
इश्क कभी समझाकर नहीं आता।  
जब आता है, तो कुछ इस तरह आता है,  
कि सोच की सारी दुनिया बदल जाती है।  
बदल देता है हमें भी,  
और उन कहावतों को भी,  
जो इश्क को समझाने की कोशिश करती हैं...

## बनारसी इश्क

इश्क वो बनारसी घाट-सा,  
सुकून वो मणिकर्णिका घाट-सी।  
हैं तो अलग-अलग जगहों से,  
पर मन फिर भी वही चंचल-सा।

## एक फूल की दास्तान

मुरझाए वो फूल के टुकड़े,  
जुल्फों पे तुम्हारी महक रहे हैं।  
अपनी कहानी तितलियों के संग की,  
तुम्हारे हाथों में गुनगुना रहे हैं।  
खुशनसीब वो कली भी कितनी है,  
जो मरकर भी तुम पर जी रही है।

## इश्क छुपके होता है

रोशनी चाँद से होती है, सितारों से नहीं।  
झाँक के देखा, तो पता चला —  
उस चाँद को भी, चुपके चुपके, देखता है ये सूरज।  
और अब रोशनी होती है सूरज से, चाँद से नहीं।  
इश्क भी छुपके होती है,  
जुदाई से नहीं।

M.Tejaswini,  
DECE 3rd year

## मुअत्तर की महक

महकने लगा था वो हर मोहल्ला मेरा,  
महक छा रही थी हर तरफ़ मेरी।  
पूछते लोग बार-बार नाम इस महक का,  
बताऊँ कैसे, ये महक उसकी थी।  
मेरी नसों में छा गई थी,  
उसकी महक जो मेरे ख्वाबों, खयालों, दिलों-दरार में उतर आई थी।  
महक उसकी मेरे चारों तरफ़ फैल रही थी,  
मुअत्तर इतनी मज़बूत थी इश्क़ की गलियों में।  
तंग थीं सारी गलियाँ,  
उस मुअत्तर की दरारों में...

## त्याग की प्रेम कहानी

प्रेम की लिखी गई थी वो कहानी,  
शमशान के राजा के लिए।  
महल छोड़कर आई थी एक महारानी,  
प्रेम की लिखी गई थी वो कहानी।  
एक पत्नी व्रत के नाम से जाना गया,  
अपनी पत्नी के प्यार में।  
राज्य के नाम उसी पत्नी को वन में छोड़ दिया गया, प्यार में।  
प्रेम की लिखी हुई थी वो कहानी।  
इश्क़ के नाम जाने जाते हैं जिन्हें,  
प्रेयसी रहते हुए भी किसी और से शादी करनी पड़ी थी जिन्हें।  
प्रेम की लिखी गई थी वो कहानी।

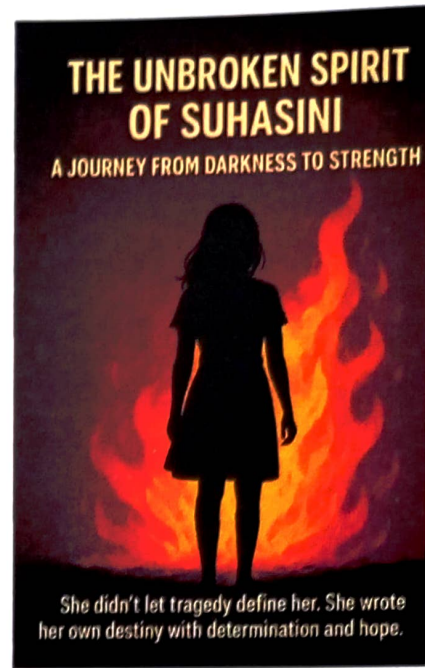
## तुम्हारी ताज

ना काजल, ना ही बिंदी कोई,  
ना कोई श्रृंगार निखारती है।  
मुरझाए ये पत्ते भाग के,  
मुरझाए फूल भी कच्चे दिल को भाते हैं।  
करना अगर श्रृंगार है तुमको,  
तो तड़पाना उन अंखियों से,  
तड़पाना हमें तुम्हारे तितलियों-से खिलखिलाते होंठों से।  
झुका है ये शोलाश्रृंगार तुम्हारी महफ़िल में,  
बस तुम अपनी ये महकती ताज सजाना श्रृंगार में।

## The Unbroken Spirit of Suhasini – A Journey from Darkness to Strength Introducing Suhasini – The Girl Born With a Gentle Heart

Suhasini was a girl who carried kindness in her eyes and dreams in her heart. She was the type of child who smiled easily, cared deeply, and believed the world was a beautiful place. Everyone who met her felt warmth around her—a girl so pure, so gentle, and so full of life. She was born into a loving joint family, surrounded by people who adored her. Her parents cherished her more than anything. Suhasini grew up believing she was protected, valued, and loved. Her world felt safe, bright, and full of possibilities. Her early childhood was filled with happiness. Her family supported her, encouraged her, and gave her every comfort. When she joined school, she felt excited, hopeful, and ready for a bright future.

Just one week after starting school, tragedy struck. A fire accident took away both her parents forever. The little girl who once felt protected was suddenly left alone. To make it worse, her relatives refused to take responsibility.



Her grandparents stepped in like a ray of hope. They held her close, took her home, and promised to raise her. Still, her once-bright world slowly turned dull. Her grandparents struggled, but they gave her everything they could with love. Suhasini once dreamed big, but after losing her parents, fear and insecurity grew inside her. Slowly, her dreams began to fade into the darkness she was living in. Society's harsh judgment. People around her made her life even harder. They whispered: "Why should a girl study so much?" "Girls are meant for household work." "Orphan girls can't achieve much."

"Her life will always be difficult." Each word was heavy, but Suhasini decided not to let their voices break her spirit. One night, while walking to meet a friend, the street lights went out. The road turned silent and dark, and her heart began to pound. Then she saw a dog growling at her, and she ran in fear. She couldn't sleep that night because of the terror she felt. **The Moment Courage Was Born.** The next day, she walked on the same road again. The same dog barked at her again. But this time, Suhasini did not run. She gathered courage, smiled, and stepped forward. She realized: "Fear ends when courage begins."

That moment changed her. She decided to rebuild her life despite the pain. She studied harder, fought every struggle, and kept moving forward. She topped her 10th grade. She topped her Intermediate. She continued growing stronger, braver, and wiser. Life taught her that true strength lies in not giving up. Today, Suhasini is not remembered for her suffering, but for her courage, confidence, and unbreakable spirit. She didn't let tragedy define her. She wrote her own destiny with determination and hope. And today, she carries a fire of her own — not the one that took her parents, but the one they would be proud of. A fire of strength, hope, and unstoppable destiny.



## The Shift Away from Core Engineering: A Growing Concern in Andhra Pradesh

### Declining Core Branches in Diploma Engineering in Andhra Pradesh

Engineering has always been the backbone of development. From building roads, bridges, and dams to generating power and running industries, the “core” branches like Civil, Mechanical, and Electrical Engineering have shaped our modern world. Yet, in recent years, diploma students in Andhra Pradesh have been showing less interest in these core branches. Instead, the spotlight has shifted toward Computer Science, Artificial Intelligence, and IT-related fields.

#### Why is this happening?

There are many reasons behind this trend:

**Job Market Pressure:** Students today look for quick job opportunities and higher salaries. IT jobs seem more attractive and “future-proof,” while core jobs are often slower to secure.

**Changing Aspirations:** The digital world has created an impression that computers are everything. Many students think mechanical or civil jobs are old-fashioned.

**Vacant Seats:** Reports show that thousands of seats in core branches remain unfilled every year, while computer-related branches are overflowing with admissions.

**Lack of Awareness:** Students are not fully aware of the long-term value of core branches in government projects, infrastructure, and industry.

#### Why does it matter?

This shift is not just about admissions; it has serious impacts:

A shortage of skilled diploma engineers in manufacturing, construction, and power sectors.

Risk of dependency on outside experts for local projects.

An imbalance in education where core labs and workshops get neglected.

Loss of opportunities for students who might excel in practical, hands-on fields.

#### The way forward

We cannot allow the roots of engineering to weaken. Some possible solutions include:

**Modernizing Core Courses:** Introducing new tools like CAD, BIM, Robotics, and IoT within civil, mechanical, and electrical engineering.

**Better Career Guidance:** Highlighting government job opportunities and industry needs in core sectors.

**Industry Partnerships:** Internships and apprenticeships with local industries can make learning more practical and job-oriented.

**Policy Support:** Scholarships and incentives for students who join core branches.

#### Conclusion:

While computer science and IT are important, core branches are the foundation of real-world engineering. Without civil engineers, there are no bridges; without electrical engineers, there is no power; without mechanical engineers, there are no machines. The future of Andhra Pradesh’s growth depends on balancing both modern and traditional branches. It is time to restore pride in core engineering and remind students that building the nation begins with strong foundations.



M. Dathasaimanivardhan  
Pin No :25018-C-036

## **Beautiful nature and future**

**Nature is so beautiful feature,  
Which supports the further future  
It gives us everything but,  
We are giving nothing instead damaging**

**If we are friendly with the nature, then  
It may open doors to enjoy our future.**

**If we plant the plants to protect the nature,  
Then, it will protect us in the future.**

**Now we are thinking that,  
Nature is a worthless feature  
But, it may soon turn into a worth full feature in our future**

**If we hurt the nature,  
It may harm us in the future  
So, don't damage the nature as,  
It may effect the future.**



**D. Mahitha  
Pin : 25018-C-081**

## Control your fear to overcome your failure

You might have a fear but,  
You should control it for your career  
I too have a stage fear but,  
I am trying to overcome it earlier  
If you want to achieve your goal,  
Then you must destroy your fear soul  
If you loose your fear then,  
You can loss your failure  
If you want something (success),  
Then you should loose some other thing (fear)  
Don't fear when you are clear and clever  
If you are courage, then,  
You can damage your discouragement  
Everything fails because of your fear,  
So, don't get fear, if not avoid it earlier



D. Mahitha  
Pin : 25018-C-081

## A burning desire

Do the things which you loves,  
Don't think about the people which you hates  
First , set a goal which you loves  
And make a plan of your loved goal  
Your poorness is not a matter in your success,  
But your dedication matters in it  
Despite your all odds and discourages,  
Achieve your goal with courageous  
Your struggles and dire straits may divert you from your goal,  
But your strength and braveness may overcome that struggles  
and dire straits.  
Build up a burning desire towards it,  
And strive to achieve it.  
You have to do so many sacrifices,  
To reach your victorious success.  
Life without goal is a life without soul.  
So, build up a burning desire and,  
Work hard to achieve that fire.



D. Mahitha  
Pin : 25018-C-081

## Accept the way you are..!

If a fish had worried about not having legs, it might never have swum freely in water or enjoyed the beauty of oceans and rivers.

If the tortoise had been troubled about not having the mobility of other animals, it might never have gained the unique ability to live in both on land and in water, missing the chance to explore both worlds.

If plants had been anxious about their stillness, humans might not have treated them as a vital source of food and life. In reality, plants play a great role in sustaining life by producing oxygen and providing nourishment.

Similarly, if we constantly worry about what we lack, we fail to notice the beauty of what we already have. Life is not about what is missing but about cherishing the strengths and qualities within us.

So, the essence of life is to accept ourselves as we are and not overlook the beauty of things that already exist in our lives, which is not haven by us.

D Yuvasree Yadav  
Pin : 24018-EC-010

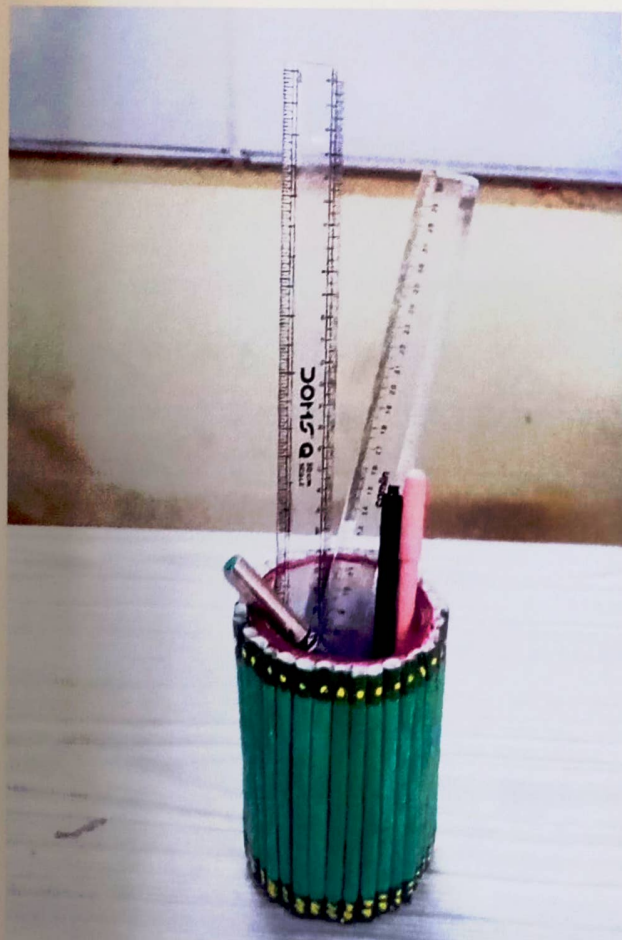


# Sketches & Models

# Best from Waste



M Leena Roy, CL/BM



P Mohith Sai  
23018-BM-032



G Jyostna Devi, L/ECE



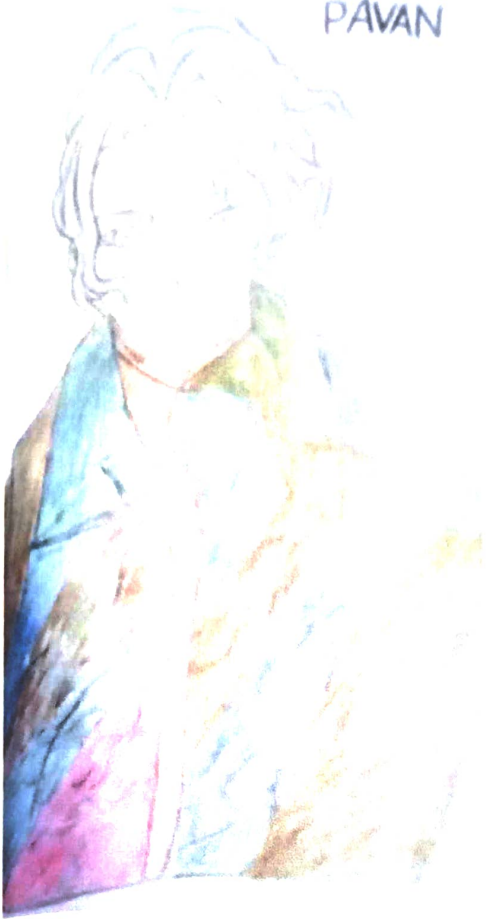
**D. Smyly**  
**24018-PH-009**



*Art by*  
**K. Sri Raghava**  
25018-EC-019

**K. Sri Raghava**  
**25018-EC-019**

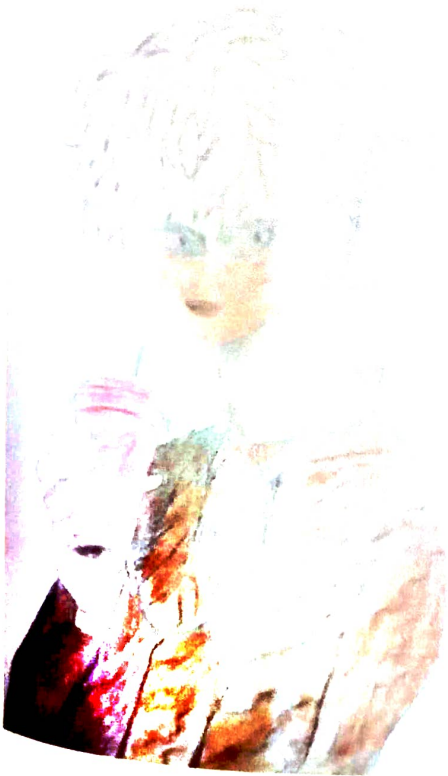
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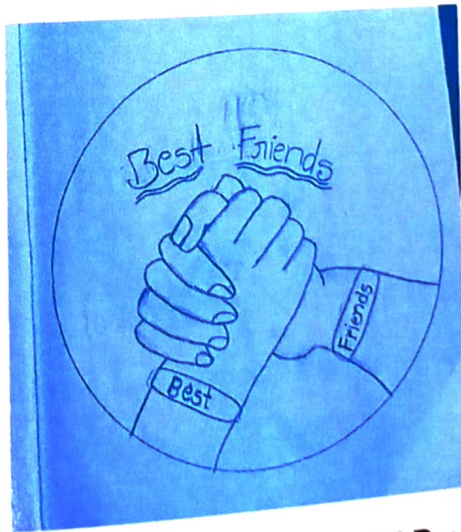


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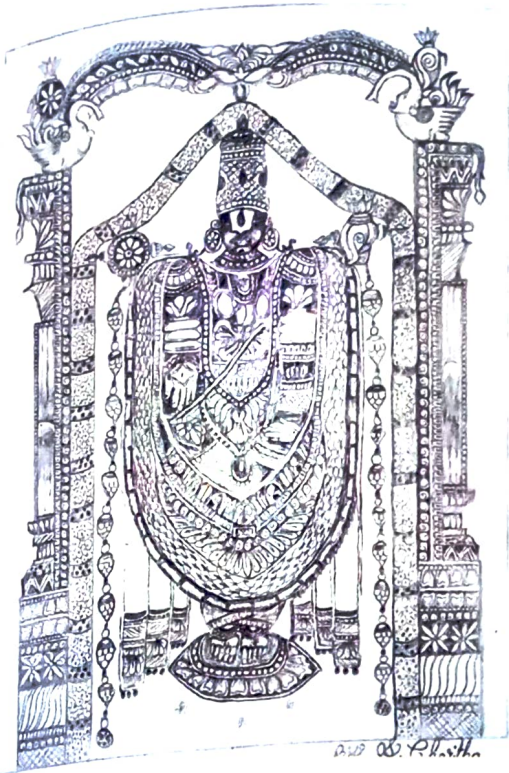


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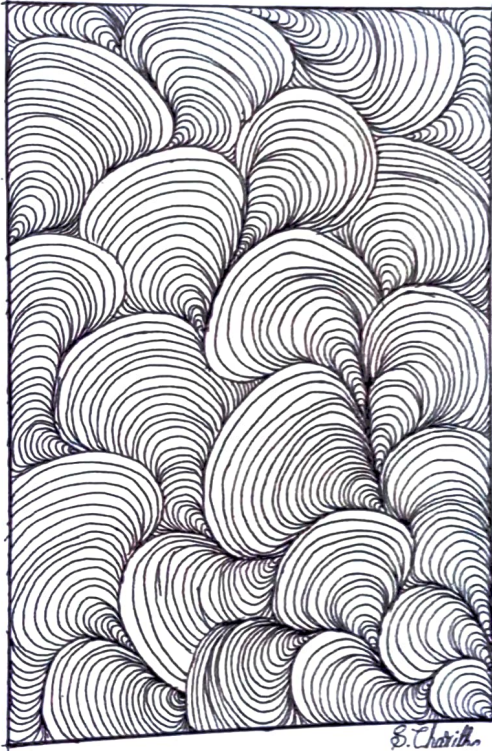


M Praveen Kumar Reddy  
Pin : 24018-EC-040

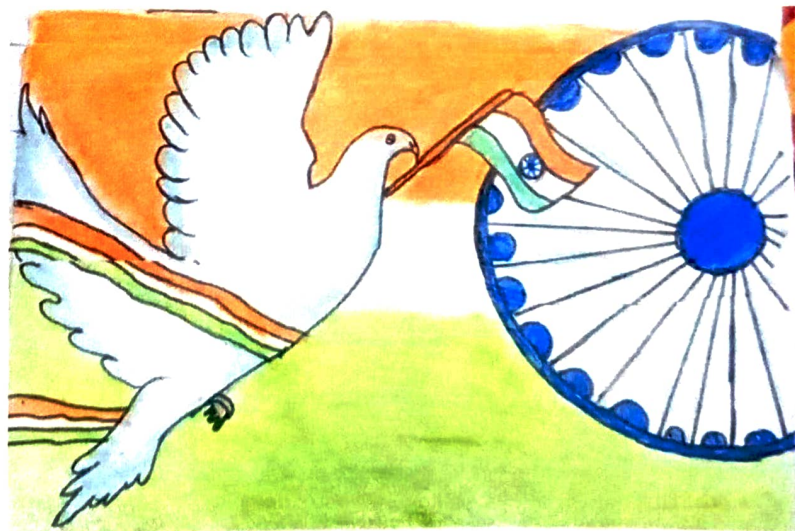
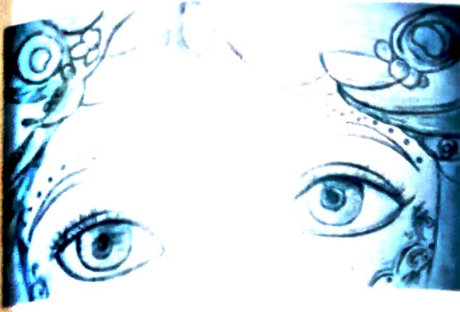


10/30

8.30 to 10.30



**S Charitha**  
**Pin : 24018-EC-052**



Shaik Thasleem  
PIN: 24015-CMI-016



Shaik Thasleem  
PIN: 24018-CM-016



# Projects

## **Frictionless Compressor :: The Future of Efficient Compression**

A frictionless compressor is an advanced type of compressor that eliminates traditional mechanical friction by levitating moving parts using magnetic or other non-contact bearing systems. Instead of oil-lubricated bearings, it uses magnetic bearings and permanent-magnet motors so the rotor floats on a cushion of magnetic forces. In traditional compressors, roller or hydrodynamic bearings support the shaft and require oil, which causes friction, heat, and energy loss. Frictionless compressors remove this limitation, enabling higher efficiency, lower maintenance, and less noise.

### **WORKING OF COMPRESSOR:**

- **MAGNETIC BEARINGS:** Use electromagnets and permanent magnets to levitate the rotating shaft, eliminating physical contact and reducing energy wasted to friction.
- **PERMANENT-MAGNET SYNCHRONOUS MOTOR:** The motor uses strong magnets rather than copper windings, making it lighter and efficient.
- **DIGITAL CONTROL SYSTEM:** Precise electronics continually adjust magnetic forces to keep the shaft perfectly centered during high-speed rotation.
- **TOUCH-DOWN BEARINGS:** Backup mechanical supports that only contact the rotor when it's stopped or in an emergency.
- **USE OF THE COMPRESSOR:** They're already used in high-efficiency chillers and industrial cooling systems, and major companies are developing oil-free models for data centers and HVAC systems.

### **ADVANTAGES:**

- \*Higher Efficiency – Magnetic levitation reduces energy loss from friction.
- \*Oil-Free Design: No lubricating oil simplifies maintenance and avoids contamination.
- \*Lower Noise & Vibration: Fewer mechanical contacts mean quieter operation.
- \*Reduced Maintenance: No oil changes or bearing replacements.

**Note:** These advantages often come with higher initial cost due to advanced bearings and control electronics.

### **APPLICATIONS & PROJECTS:**

Frictionless compressors are especially relevant for:

- \*HVAC and Refrigeration — oil-free chillers with digital control Data Center Dynamics.
- \*Industrial Gas Compression — where purity and efficiency matter.
- \*Research Prototypes — projects explore magnetic suspension for aerospace and cryogenic compressors.

### **FUN FACT:**

The concept of a magnetic-bearing frictionless compressor was first showcased at a major HVAC industry expo and won innovation awards for energy savings and reduced emissions — signaling strong industrial interest.

Under the guidance of  
Sri H Ramakrishna Rao, L/ME  
by K Vinay Kumar  
(23018-M-061)

# **Innovative Hydraulic Bridge Project**

## **by Diploma Civil Engineering Students**

We prepared a working model of a Hydraulic Bridge as part of our project work. The main aim of our model is to show how hydraulic pressure can be used to lift and lower a bridge for the passage of vehicles and boats. The bridge works on Pascal's Law, which states that pressure applied to a fluid is transmitted equally in all directions. We used syringes, pipes, and water to operate the bridge smoothly. When pressure is applied, the bridge lifts, and when released, it comes back to original position. This project helped us understand the real-life use of hydraulics in bridge construction and improved our teamwork and practical skills. We thank our faculty member/Guide for his support and guidance in completing this model successfully.

### **Objective**

The main objective of our project is to understand and apply Pascal's Law, which states that "Pressure applied to a confined fluid is transmitted equally in all directions." Through this, we wanted to showcase how hydraulic mechanisms are used to raise and lower bridge sections to allow the smooth passage of vehicles and ships.

### **Working Principle**

Hydraulic bridge model operates using two syringes connected by a plastic tube filled with water. When pressure is applied to one syringe, the fluid transmits the force to the other syringe, causing the bridge deck to lift. Releasing the pressure allows it to return to its original position. This simple setup effectively demonstrates the concept of hydraulic actuation used in real-life movable bridges.

### **Materials Used**

- Cardboard
- Plastic tubes
- Syringes (for hydraulic system)
- Water as hydraulic fluid
- Colour Papers

### **Results and Learning**

The model successfully demonstrated the working of a hydraulic mechanism. Through this project, we gained practical knowledge of understanding fluid mechanics, teamwork, and construction skills. It also helped us understand how theoretical concepts are applied in real-world civil engineering designs.

### **Conclusion**

The Hydraulic Bridge Project was an enriching experience that enhanced our technical knowledge, creativity, and coordination. It reflects our enthusiasm for innovation and our passion for civil engineering.

### **TEAM MEMBERS:**

- A. Bhumika - (23018-C-065)
- A. Abhilash -(23018-C-066)
- A. Guru Chaitanya -(23018-C-067)
- A. Tarun Kumar -(23018-C-068)

Guided by:

V. Raghavachar  
Sr. Lecturer in CE