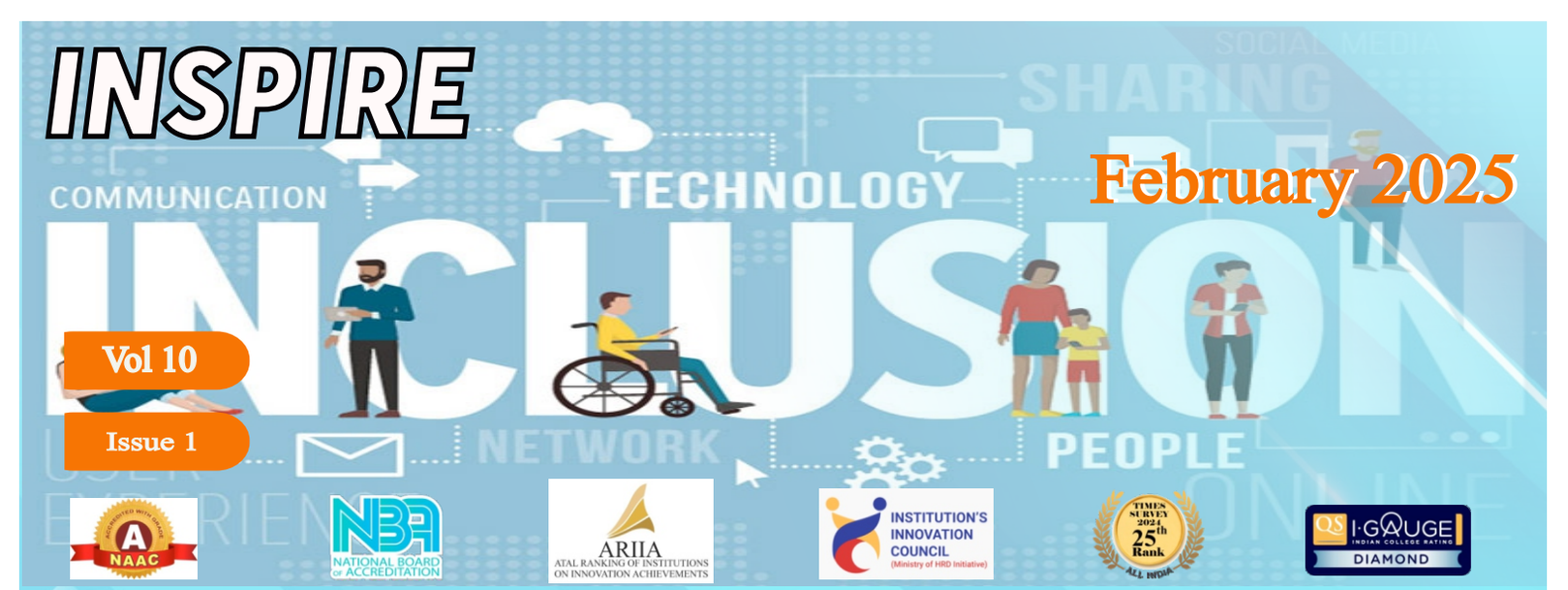
INSPIRE



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Vol 10

Issue 1

VISION AND MISSION OF THE INSTITUTION

Vision

To be one of the premier Institutes of Engineering and Management education in the country

Mission

- To provide Engineering and Management education that meets the needs of human resources in the country
- To develop leadership qualities, team spirit and concern for environment in students

Objectives

- To achieve educational goals as stated in the vision through the mission statements which depicts the distinctive characteristics of the Institution
- To make teaching-learning process an enjoyable pursuit for the students and teachers

VISION AND MISSION OF THE DEPARTMENT

Vision

To be a premier department of learning in Information Science and Engineering in the state of Karnataka, moulding students into professional Engineers

Mission

- Provide teaching-learning process that develops core competencies in Information Science and Engineering to meet the needs of the industry and higher education
- Create an environment for innovative thinking and self-learning to address the challenges of changing technology
- Provide an environment to build team spirit and leadership qualities to succeed in professional career
- Empathize with the societal needs and environmental concerns in Information Science and Engineering practices

Inclusive Education

Every child has the right to quality education and learning

Across the globe, an estimated 240 million children live with disabilities. Like all children, they have dreams and aspirations for their future and require quality education to develop their skills and reach their full potential.

However, children with disabilities are often excluded from policymaking, limiting their access to education and opportunities for social, economic, and political participation. They are among the most marginalized when it comes to schooling, facing systemic barriers such as discrimination, stigma, and a lack of inclusive educational policies. The failure to prioritize their needs in school systems continues to hinder their ability to learn, grow, and thrive.

Inclusive education is the key to ensuring that every child has an equal opportunity to attend school, learn, and build the skills needed for a successful future.

It goes beyond simply placing children in the same classrooms—it fosters meaningful learning experiences for traditionally marginalized groups, including children with disabilities and speakers of minority languages.

By embracing diversity, inclusive education systems recognize and celebrate the unique strengths each student brings. When children from different backgrounds learn together, they grow together—creating stronger, more equitable communities that benefit everyone.

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Empowering Education: The Rise of Inclusive Learning in the Digital Age

Education is the foundation of progress—and the true progress is inclusive. Today, inclusive education means more than accessibility. It's about creating environments where students of all abilities and backgrounds can thrive together.

Advances in AI and assistive technologies are transforming how students with disabilities learn. Tools like speech-to-text apps, AI tutors, and VR classrooms are breaking barriers and personalizing learning like never before. Schools are also adopting Universal Design for Learning (UDL), designing lessons that support diverse needs from the start.

Gamified learning, adaptive teaching methods, and peer mentorship programs are keeping students engaged and supported. But inclusion isn't just about tools—it's about mindset. Teachers and administrators play a vital role in creating classrooms that celebrate, -not sideline, - the differences.

By embracing empathy, equity, and innovation, we can ensure that every student has the opportunity to succeed.

Sources: UNESCO (2023), World Economic Forum (2022), MIT Technology Review (2023)

Anirudh Kulkarni,
1BG23IS006,
IV Semester, ISE

Tech for All: Transforming Learning Environments Inclusively

As technology transforms every corner of society, inclusive education stands out as a crucial approach to ensure that *no learner is left behind*. By integrating digital tools with inclusive strategies, educators can create equitable, adaptable learning environments for all students.

Inclusive education embraces diversity, ensuring students with disabilities or learning difficulties learn alongside their peers. Today, technology plays a vital role in making this vision a reality through innovations such as:

- **Assistive Technologies**
- **Adaptive Learning Platforms**
- **Virtual & Augmented Reality**
- **Digital Collaboration Tools**
- **E-Libraries and Accessible Content**

These tools support core goals of inclusive education—identifying and enrolling students with diverse needs, offering tailored academic support, promoting growth, and reducing discrimination.

Effective Strategies Include:

- Designing accessible, welcoming digital environments.
- Encouraging active participation through interactive content.
- Addressing biases with training and awareness.
- Motivating students via gamification and mentorship.
- Building adaptable, inclusive curriculum.

As schools undergo digital transformation, inclusion must remain a top priority. With the right technology and mindset, we can build a future where *every* student is empowered to succeed.

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Kaushik Kumar,
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Inclusive Learning: Empowering Every Student

Inclusive education ensures that every student—regardless of ability—has the opportunity to succeed in a welcoming, supportive environment. For students with disabilities, it's not just about access to education, but about independence, equality, and belonging.

While education is a fundamental right, traditional systems often fall short. Disabled students face challenges such as uniform teaching methods, social isolation, and limited access to assistive technology. These barriers can hinder both academic progress and personal growth.

But change is underway: Schools, NGOs, and policymakers are embracing inclusive practices that transform learning:

- **Accessible Infrastructure & Materials**: From sign language interpreters to Braille textbooks, inclusive tools allow all students to fully participate.
- **Supportive Policies**: Laws like India's Right of Persons with Disabilities Act mandate inclusive education and provide critical accommodations.
- **Flexible Learning Options**: Home-based and online learning platforms are helping students with mobility or health challenges stay engaged.

- **Teacher Training**: Educators are being equipped with the skills needed to support diverse learners.
- **Community Collaboration**: Inclusive education is a team effort—families, peers, and schools all play a role.

To truly unlock the potential of every learner, we must commit to education that leaves no one behind. Inclusive learning isn't just good policy—it's a step toward a more just and equitable society.

Reference:

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R Kousheka
1BG22IS036,
VIth Semester, ISE

Tech for All: Building an Accessible Future in Learning

Inclusive technology ensures equal learning opportunities, particularly for students with disabilities. **Accessible Educational Materials (AEM),** such as braille books, large print, and captioned videos, support diverse learning needs. Tools like **Microsoft Immersive Reader** aid students with reading challenges, while platforms like **Google Classroom** integrate accessibility features to enhance inclusion.

Assistive Technology (AT) further improves accessibility. **Screen readers** like JAWS assist visually impaired students, while speech-to-text tools like **Google Docs Voice Typing** help those with writing difficulties. Built-in features like **Apple's VoiceOver** and **Android's TalkBack**, along with adaptive keyboards and eye-tracking systems, empower students with mobility impairments.

While technology has great potential to support **inclusive education,** barriers like limited resources and teacher training persist, especially in low-income regions. However, when effectively implemented, it creates a more equitable learning environment for all.

References:

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Navya Prakash,
1BG22IS024,
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Breaking Barriers: How Inclusive Technology is Empowering People with Disabilities

Technology continues to be a powerful equalizer, unlocking opportunities for individuals with disabilities across education and employment. Recent innovations show how inclusive design—when built with the end user in mind—can break barriers and foster equity.

1. Inclusive Hiring with Workability

Developed in India, **Workability** is a digital job platform tailored for individuals with intellectual disabilities. With features like speech-to-text, AI-powered resume parsing, and a voice-enabled multilingual interface, it simplifies the job application process. The platform connects job seekers, employers, and vocational centers—empowering users with tools for economic independence and helping reduce stigma in hiring

2. Smart Tech Training with Smart Speaker Savvy

At the University of Pittsburgh, **Smart Speaker Savvy** trains users with physical and sensory disabilities to navigate Amazon Echo devices. Designed with user feedback, the interactive course teaches key accessibility features, helping bridge the digital divide and promote smart device confidence and independence.

3. Enhanced Learning with Sahayak

Sahayak, developed at NIT Calicut, is a mobile app that combines AI and Augmented Reality to support children with intellectual disabilities. It reads printed text aloud, provides visual aids and grammar help, and overlays 3D models for immersive learning—offering a personalized, multi-sensory educational experience.

The Road Ahead

These innovations reflect a broader commitment to inclusive technology. By involving users in the design process and focusing on accessibility, these projects prove that disability is not a limitation—but a design opportunity to create a more equitable world.

Nidhi P,
1BG22IS025,
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Empowering Every Learner: The Role of Inclusive Technology in Education

Inclusive education ensures that every student—regardless of ability—has equal access to learning opportunities. With the rise of inclusive technologies, schools are better equipped than ever to support students with physical, sensory, or cognitive impairments.

Innovative Tools Making a Difference:

- **For Visual Impairments**: Screen readers like JAWS and NVDA, along with refreshable Braille displays, help students access digital content through speech or touch.
- **For Hearing Impairments**: Tools like Google Live Transcribe and Roger Pen provide real-time transcription and sound amplification.
- **For Learning Difficulties**: Kurzweil 3000 and ClaroRead offer multisensory reading and writing aids.
- **For Mobility Challenges**: Tobii Dynavox uses eye-tracking for computer control, while adaptive keyboards support limited motor function.
- **For Focus and Engagement**: Platforms like ClassDojo, GoNoodle, and AR apps like Quiver create interactive, visually rich experiences that enhance attention and learning.

The Path Forward

Inclusive technology doesn't just remove barriers—it enriches classrooms by celebrating diverse ways of learning. As innovation continues, so must our commitment to ensuring every student has the tools they need to succeed.

Pooja K N S,
1BG22IS029,
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Inclusive Education and the Role of Technology in Bridging Learning Gaps

Inclusive education is rooted in the global fight for equal rights and access to learning for every student—regardless of ability, background, or economic status. Landmark frameworks such as the **UN Convention on the Rights of Persons with Disabilities (2006)**, **Sustainable Development Goal 4**, and the **Individuals with Disabilities Education Act (IDEA)** in the U.S. have laid the foundation for inclusive, equitable learning environments.

Despite this progress, many barriers still persist. Traditional classrooms often lack the infrastructure, resources, and trained educators needed to support students with special needs. Those in low-income or remote areas face even steeper challenges, from limited internet access to the absence of assistive devices.

Fortunately, educational technology (EdTech) is bridging these gaps. Tools powered by **AI, assistive tech, and immersive learning platforms** are transforming how we teach and how students engage. These innovations don't just support accessibility—they empower learners to reach their full potential.

Inclusive education isn't just about access—it's about opportunity. With the right tools and an inclusive mindset, we can design learning environments that celebrate diversity and ensure no student is left behind.

ShivaShankar M B
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Agentic AI: Empowering Inclusive and Adaptive Learning Environments

Artificial Intelligence is rapidly evolving, and its next leap—**Agentic AI**—promises to revolutionize education. Unlike traditional AI, which follows static instructions, Agentic AI enables autonomous systems that adapt in real-time, collaborate with other agents, and make independent decisions. This shift opens exciting possibilities for creating more inclusive, personalized learning environments.

Transforming Classrooms Through Agentic AI

In education, Agentic AI can tailor content and teaching strategies to individual learning needs. Imagine a virtual assistant that adjusts lessons based on a student's pace, engagement, or accessibility requirements. Tools like **LangChain** make this possible by connecting multiple AI models to deliver dynamic, multi-step learning experiences.

Multi-Agent Systems for Accessibility

Agentic AI thrives on collaboration. For instance, in a classroom, one agent could monitor attention through facial cues while another provides real-time translations or sign language interpretation. This kind of **multi-agent integration** ensures that students with disabilities receive the support they need, making inclusive education a reality.

Adaptive Learning in Action

Adaptive learning systems powered by Agentic AI respond to student input instantly—offering extra help when a student struggles or modifying content to suit different learning styles. These insights also help teachers provide better support, enhancing both teaching and learning outcomes.

Ethics and Responsibility

With great potential comes great responsibility. Ensuring **data privacy, transparency**, and **bias-free algorithms** is critical as we implement Agentic AI in schools. Developers must build ethical systems that prioritize fairness and explainability while protecting sensitive information.

The Path Forward

Agentic AI is more than a technological milestone—it's a bridge to equitable, inclusive education. By empowering learners of all backgrounds, it redefines what it means to teach and learn in the 21st century. As future technologists and educators, we must shape this future with care, ensuring that innovation serves everyone, equally.

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Event Details

1. Technical Talk

Technical talk "Drone Computing" was conducted for 6th and 4th semester students on 14th September 2024 by Mr. Sumit Veerawal, Researcher – Government of India. The speaker gave the input on importance of Drone Computing and its Application

2. Alumni Talk

Alumni Talk on "Choosing the Right Company: Navigating Challenges and Opportunities" conducted on 9th November 2024 by Mr. Shubodh K Senior Product Owner, Amadeus Software Labs.

Talk on "Mastering the art of Research writing" was conducted for Faculties and students on 23rd November 2024 by Dr. Gururaj H L Associate Professor, Manipal University. The speaker gave an insight about research writing.

3. Ideathon

Ideathon– Inter-Collrgiate Event was conducted on 18th December 2024, Mr. Karthik Phanindran, Security Delivery analyst, Accenture Ms. Sparsha Bindhu, Devops Engineer, Numocity were the jury member.

Ideathon– Inter-Collegiate Event was conducted on 18th December 2024. Students from various college participated in the event.

4. Faculty Development Program

Five days Faculty Development Program on Augmented Reality & Virtual Reality was conducted from 27th January 2025 to 31st January 2025 by RayVector and Mr. Keshava Karthik addressed the audience about the features of Augmented Reality & Virtual Reality.

Five days Faculty Development Program on Augmented Reality & Virtual Reality was conducted from 27th January 2025 to 31st January 2025 by RayVector

5. Technical Talk

Technical talk on "Artificial General Intelligence and Quantum Computing" was conducted on 8th February 2025 by Mr. Satheesh P G , Enterprise Architect TCS, Bengaluru for 4th semester students.

Technical talk on "Technology Trends and Being Future Ready" was conducted on 21st February 2025 by Mrs. Asha Vijayakumar, Senior Manager, IP Intelligence, Airbus Group, Bengaluru for 4th semester students.

6. Industrial Visit:

I. Visit to KPTO Trade Centre :

Industrial visit to IOT Show in KTPO Trade Centre on 28th February 2025 for 4th semester students. Students visited various department in the KTPO Trade Centre and attended some of the demonstration session of various projects.

II. Visit to Britannia Industries :

Industrial visit to Britannia Industries Limited on 9th November 2024 for 4th semester students. Students visited various department in the Britannia.

WORD PUZZLE

S	S	E	R	V	I	C	E	D	O	G	A	B	C
I	D	I	E	B	F	G	H	I	J	K	L	E	M
G	U	L	P	R	O	S	T	H	E	T	I	C	D
N	I	H	A	A	P	H	A	S	I	A	O	H	F
L	M	I	L	I	N	I	K	R	H	L	I	O	S
A	A	F	M	L	C	D	O	I	A	L	U	L	M
N	G	C	A	L	O	B	P	L	U	M	A	O	A
G	N	E	M	E	O	L	N	U	R	I	P	C	R
U	I	V	A	C	B	U	L	G	F	O	D	A	T
A	F	A	D	I	R	E	O	P	I	F	M	T	B
G	I	U	C	A	P	T	I	O	N	S	S	I	A
E	E	F	M	S	U	O	N	A	R	A	K	O	N
T	R	P	O	M	O	O	N	N	A	D	V	N	D
H	I	N	V	A	K	T	L	A	A	H	L	I	F
T	F	I	E	G	H	H	D	E	T	Y	I	U	K
T	K	M	Y	O	E	L	E	C	T	R	I	C	M

QUESTIONS:

1. A system that allows people to control devices using their brain signals.
2. An artificial limb that helps someone who lost a hand or leg.
3. A wearable tool that uses sound waves to help detect nearby objects.
4. Loss of ability to speak or understand speech after a brain injury.
5. Free screen reader software for people who are blind or visually impaired.
6. Live text shown on screen to help deaf people follow a conversation.
7. Device that helps people move the cursor using only air puffs or sips.
8. Writing system made of raised dots used by blind people.
9. Hand signals used by deaf people to talk without sound.
10. A band or bracelet that lets a disabled person send alerts easily.
11. Helps people with muscle problems to move a robotic arm using their muscles.
12. Feature that increases text size and contrast for low vision users.
13. Flat, barrier-free entrance helpful for people in wheelchairs.
14. Trained animal that assists with hearing, walking, or emergencies.

ANSWERS:

1. BCI
2. Prosthetic
3. Echolocation
4. Bluetooth
5. Aphasia
6. NVDA
7. Captions
8. SignAndPrint
9. Braille
10. Sign Language
11. SmartBand
12. ServiceDog
13. Magnifier
14. Ramp
15. Wheelchair

Pusala Deepika,
1BG23IS044,
IV Semester, ISE

Staff Achievements

1. Dr. S.Srividhya and Dr. Jagruthi H has received certificate of appreciation from BOSCH for contributing in pilot research project on 19th January 2024.
2. Dr. S.Srividhya has chaired a session in the “International Conference on CNext-Gen Semiconductor device and smart computing applications” organized by Cambridge institute of technology on 20th and 21st of Dec 2024.
3. Dr. S.Srividhya , Dr. Jagruthi H, Dr. Laxmi V and Dr. Nandini G has chaired a session at 3rd IEEE International Conference on " Intelligent and Innovative Technologies in Computing, Electrical and Electronics" Organized by BNM Institute of Technology.

Student Achievements

1. 6th Semester students won the first place with the cash amount of 10,000/- in Smart India Hackathon Smart Spark – Hardware Hackathon SIH 2024, GITAM University conducted by Ministry of Education and AICTE, New Delhi from 11th November 2024 to 15th December 2024 . Under the guidance of Dr.S Srividhya and Dr. Kumar, Bhumika Honnalli (1BG22IS012) , Brindha D (1BG22IS013), Nimith B (1BG22IS026) , Pradyumna M D (1BG22IS030), Prajwal Athreyas S (1BG22IS032), Shreesha M Rao (1BG22IS051).
2. Mohammed Zain Sufiyan (1BG23IS035) has won the fight bout in “Jui- Jitsu” at Kia Kaha MMA on 19th October 2024.
3. Nimith B (1BG22IS026) has won 2nd runner up in PEC Hacks 2.0 organised by Panimalar Engineering college on 28th and 29th December 2024.
4. Shoyeb Rampure (1BG22IS050) has won 2nd runner up in PEC Hacks 2.0 organised by Panimalar Engineering college on 28th and 29th Dec 2024.
5. Brindha D (1BG22IS013) has won 2nd runner up in PEC Hacks 2.0 organised by Panimalar Engineering college on 28th and 29th Dececember 2024.
6. Nimith B (1BG22IS026) , Brindha D (1BG22IS013), Sarthak N (1BG23IS050) and Shriram (1BG23IS053) has secured third place with a cash prize of 10,000 at National level offline hackathon, ”Hack-A-League 3.0” held on 1st & 2nd February 2025.
7. Akshay Cavale (1BG21IS005) has been awarded with title Born to be an entrepreneur on Open day at BNMIT.
8. Prajna Shetty (1BG21IS046) has won 1st place in volleyball at Inter collegiate state level tournament held at CMRIT, Bengaluru, on 15th & 16th October 2024.

Editorial Team