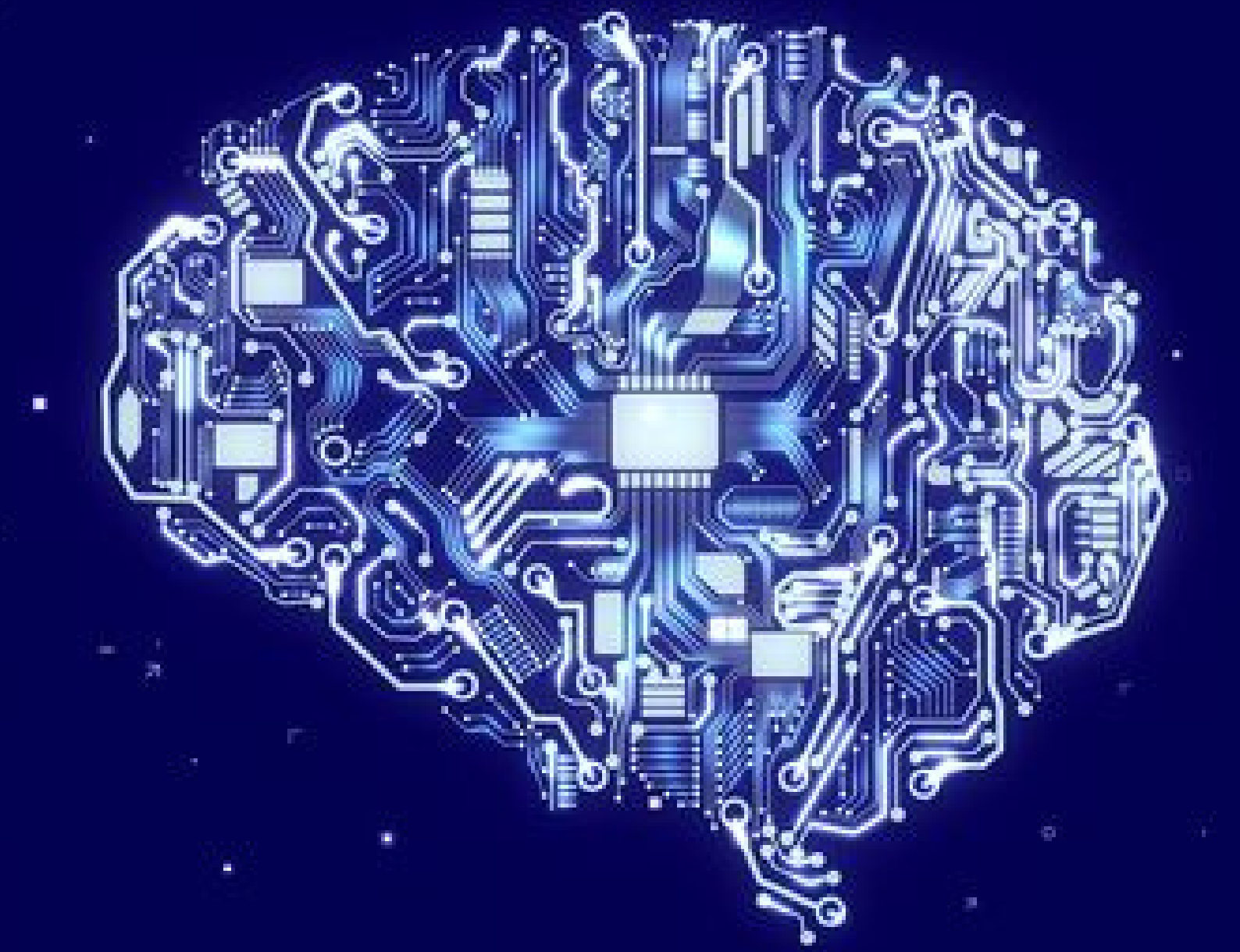
MINDRONICS

Dept. of ECE Magazine, Volume - 8, Issue 2
Oct. - Dec. 2024



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (A)

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MINDTRONICS

Dept. of ECE Magazine Oct. - Dec., 2024 Vol. 8, Issue - 2

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Focus & Scope:

A department magazine encourages the students to think, present and draft that help them in developing their talent, technical and writing skills. Also it helps them to improve their power of thinking and strengthen their imagination. Our department magazine MINDTRONICS consists of Articles on Emerging Developments in Electronics, Cartoons, Poetry, Drawings and Review Writings on Latest Happenings collected from department students.

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Foreword

Shri. L. R. N.K. Prasad Reddy,
Chairman.

It's wonderful to hear about the success and creativity of the Department of Electronics and Communication Engineering and their magazine, "Mindtronics." Creating a platform like this not only showcases the talents of students but also contributes to the overall growth and development of the department. Expressing appreciation for the efforts of the entire team, including the Faculty Coordinators, is a great way to acknowledge their hard work and dedication. It's commendable that the department has taken the initiative to nurture and celebrate the talents of its students.

The Department of Electronics and Communication Engineering (ECE) adopts the acronym "ELECTRONICS" to embody its commitment to perpetual learning, creativity, research, innovation, and societal impact. The magazine reflects the collaborative spirit of the ECE community, with the students' team praised for their hard work in curating a diverse and impactful edition. The Faculty Coordinators are acknowledged for their valuable guidance. "Mindtronics" is seen not just as a publication but as a catalyst for the continual improvement of students' overall skill sets in the field of electronics and communication engineering.

Shri. G. Srinivasa Reddy,
President, LBCT

Foreword

Dr. K. Appa Rao,
Principal

Electronics and Communication Engineering (ECE) involves researching, designing, developing, and testing electronic equipment used in several engineering systems. It gave me great satisfaction to know that the Department of Electronics and Communication Engineering has come up with its own magazine, "Mindtronics". The way they presented it was unique, very creative and hope it will serve as a motivational and technological source for the students to exhibit their inherent talents and improve their skills. I'd like to express my appreciation to the whole team members of Mindtronics including Faculty Coordinators who really made it possible.

The branch ELECTRONICS stands for "Ever Learning, Ever Creative Through Research Onsetting New Inventions Comforting Society". The Department of ECE's magazine, "TechConnect," recently revised as "Mindtronics," that has been a source where members of the department are invoked to share their ideas, talents which includes technical, general aspects, and I strongly believe it is a wonderful platform to showcase their creative skills. I appreciate the entire students' team of Mindtronics for their efforts and hard work that they put in to bring out this edition. I extend my sincere thanks to Faculty Coordinators for their fabulous guidance. I hope this magazine gets strengthened further in all aspects to improve the overall skillset of students.

Dr. G. Srinivasulu,
Profesor & Head, ECE

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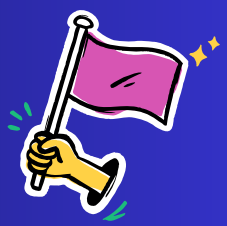


EMERGING DEVELOPMENTS

Space-Based Solar Power (SBSP)

Space-Based Solar Power (SBSP) represents a revolutionary shift in renewable energy, offering the potential for limitless, clean energy delivered directly from space. Here is a more detailed analysis of its current state, challenges, advancements, and future trajectory in 2024:

1. Core Components of SBSP Systems

❖ **Solar Collectors**

- Gigantic solar arrays deployed in geostationary or low-Earth orbit.
- Advanced materials, like lightweight perovskite or thin-film photovoltaics, make arrays more durable and efficient.

❖ **Energy Conversion and Transmission**

- Energy harvested is converted into microwaves or laser beams for wireless transmission.
- High-frequency beams are aimed at ground-based rectennas (receiving antennas), which convert them back into electricity.

❖ **Ground Infrastructure**

- Rectenna farms with high-efficiency conversion systems are built on Earth to receive and distribute energy.

2. Latest Technological Advancements (2024)

❖ **Hyper-Efficient Solar Cells**

- New-generation cells achieve over 50% efficiency under concentrated sunlight conditions.
- Innovations reduce degradation caused by the harsh space environment.

❖ **Self-Assembling Structures**

- Satellites equipped with AI and robotics assemble large solar arrays autonomously in orbit.

❖ **Precision Beam Steering**

- AI-driven systems enhance the accuracy of microwave and laser beams, minimizing energy loss during transmission.
- Beaming technology includes automatic cutoffs to prevent harm to aircraft, satellites, and living organisms.

3. Current Projects and Demonstrations

❖ **Japan's Wireless Power Transfer Milestones**

- JAXA successfully demonstrated high-power microwave transmission over a distance of 50 meters in a controlled environment, progressing toward orbital testing.

❖ **China's Megawatt Prototype**

- China's SBSP project aims to launch a 1-megawatt solar power station by 2028, with extensive ground tests already completed.

❖ **NASA's Artemis Lunar Energy Collaboration**

- NASA is studying SBSP to power lunar bases, which could later scale for terrestrial use.

❖ **European Space Agency's Solaris Project**

- ESA is funding feasibility studies for SBSP, with a focus on large-scale adoption by 2035.

❖ **Private Sector Initiatives**

- Companies like Northrop Grumman and Caltech are developing proprietary SBSP technologies, leveraging private capital and innovation.

4. Benefits of SBSP

❖ **24/7 Energy Harvesting**

- Continuous solar exposure in orbit ensures an uninterrupted energy supply, unlike ground-based systems affected by weather or nightfall.

❖ **Global Energy Distribution**

- Energy can be transmitted to remote or disaster-stricken areas, bypassing the need for traditional grid infrastructure.

❖ **Reduced Land Use**

- SBSP systems require minimal land for rectennas compared to ground-based solar farms.

❖ **Carbon Neutrality**

- As a renewable energy source, SBSP eliminates greenhouse gas emissions and dependence on fossil fuels.

5. Challenges in Scaling SBSP

❖ **High Initial Costs**

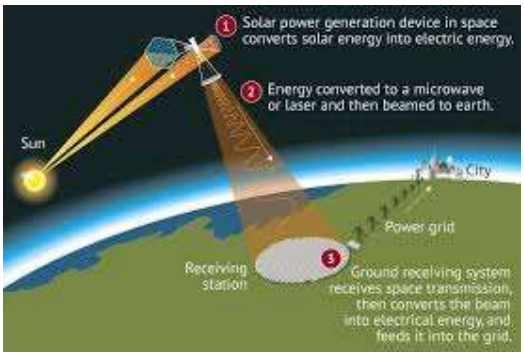
- Launching large solar arrays and building receiving stations involve significant financial investments.
- Space launches remain expensive, although reusable rocket technology is reducing costs.

❖ **Transmission Losses**

- Current microwave and laser systems experience energy loss during atmospheric transmission.

❖ **Space Debris Risks**

- The proliferation of satellites increases collision risks, potentially damaging SBSP infrastructure.



Potential Applications

● **Disaster Relief**

➢ Rapid deployment of energy to areas affected by natural disasters or grid failures.

● **Military and Defense**

➢ Reliable energy sources for remote military installations.

● **Global Energy Equity**

➢ Bridging the energy gap for developing countries and isolated communities.

By

R. Gowthami Bai

(23765A0417)

Ocean based solutions

Ocean-based solutions are innovative strategies leveraging marine ecosystems to address climate change, biodiversity loss, and resource scarcity. These solutions are gaining momentum due to their potential to scale globally and provide sustainable economic opportunities.

Types of Ocean-Based Solutions

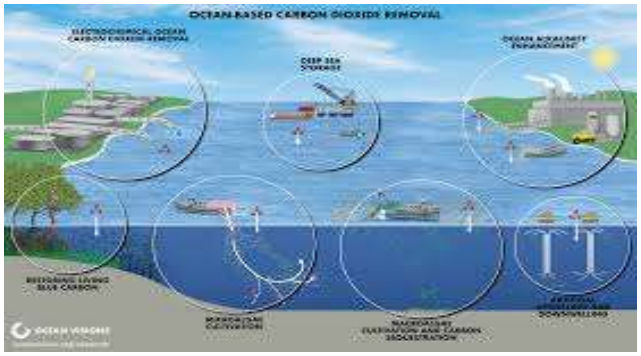
1. Carbon Sequestration

Oceans play a critical role in absorbing carbon dioxide (CO2) from the atmosphere. New technologies and practices aim to enhance this natural capacity:

- **Blue Carbon Ecosystems**:
  - Protect and restore coastal habitats like mangroves, seagrasses, and salt marshes.
  - These habitats sequester carbon at rates up to 10 times higher than terrestrial forests.
- **Algae Farming for Carbon Capture**:
  - Large-scale cultivation of macroalgae (e.g., kelp) absorbs CO2.
  - Harvested algae can be used for biofuels, animal feed, or carbon storage.

2. Renewable Energy

- **Offshore Wind Farms**:
  - Turbines installed in shallow and deep waters provide renewable energy with minimal land use.
  - Innovations in floating wind platforms enable deployment in deeper oceans.
- **Wave and Tidal Energy**:
  - Technologies harness kinetic energy from waves and tides, offering consistent energy sources.
  - Projects like Scotland Mey Gen are pioneering tidal energy systems.
- **Ocean Thermal Energy Conversion (OTEC)**:
  - Utilizes temperature differences between surface and deep waters to generate electricity.



3. Sustainable Fisheries and Aquaculture

● **Regenerative Ocean Farming**:

○ Combines shellfish and seaweed farming to restore marine ecosystems.

○ Requires no freshwater or fertilizers, reducing environmental impact.

● **Precision Aquaculture**:

○ AI and IoT technologies optimize fish farming, minimizing waste and environmental degradation.

● **Marine Protected Areas (MPAs)**:

○ Safeguard biodiversity hotspots, ensuring sustainable fish populations.

4. Ocean-Based Carbon Removal Technologies

● **Direct Ocean Capture (DOC)**:

○ Machines extract dissolved CO2 directly from seawater, enabling sequestration or industrial use.

● **Iron Fertilization**:

○ Introducing iron to stimulate phytoplankton growth, which absorbs CO2.

○ Controversial due to potential ecological impacts.

5. Ocean Cleanup and Pollution Management

● **Plastic Cleanup Initiatives**:

○ Projects like The Ocean Cleanup deploy systems to remove plastic waste from oceans and rivers.

● **Biodegradable Alternatives**:

○ Developing marine-safe biodegradable materials to replace single-use plastics.

● **Oil Spill Management**:

○ Advanced bioremediation using bacteria to break down hydrocarbons.

6. **Marine Biotechnology**

● **Pharmaceutical Discoveries**:

○ Marine organisms offer untapped potential for developing new drugs, including antibiotics and cancer treatments.

● **Bioplastics from Algae**:

○ Seaweed-derived polymers are emerging as sustainable alternatives to petroleum-based plastics.

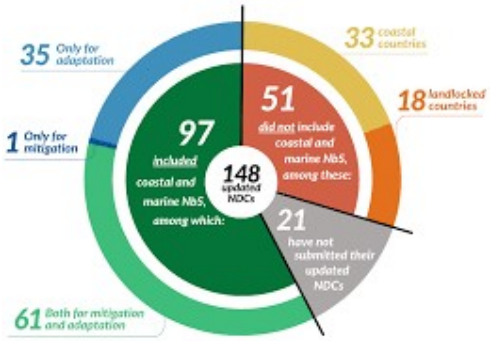
7. Desalination and Water

● **Energy-Efficient Desalination**:

○ Reverse osmosis and solar-powered desalination plants are providing fresh water in arid regions.

● **Ocean Fog Harvesting**:

○ Technologies capture water droplets from ocean fog, offering a new water source.



Recent Developments

1. Floating Cities:

○ Initiatives like Ocean-ix aim to create self-sustaining floating urban habitats.

○ Integrate renewable energy, aquaculture, and waste recycling systems.

2. Deep-Sea Mining:

○ While controversial, the extraction of critical minerals from the seafloor is being explored for sustainable electronics and green energy technologies.

3. Marine Carbon Markets:

○ Blue carbon credits incentivize companies to invest in ocean restoration projects.

By

Ambica Sri lasya Alamuri

22761A04D3

Vertical Farming Scaling

Vertical farming, a method of growing crops in vertically stacked layers or controlled environments, is scaling up rapidly in urban areas. The focus in 2024 is on enhancing efficiency, reducing costs, and diversifying crops to meet growing demands for sustainable food production.

1. Technological Advancements

- **Energy-Efficient LED Lighting**
  - New LED systems provide optimized light wavelengths tailored to each crop needs, reducing energy use by up to 50%.
  - Smart lighting adjusts intensity and spectrum throughout the day, mimicking natural sunlight for better growth.
- **Automation and Robotics**
  - Robots handle planting, harvesting, and maintenance, reducing labor costs and human errors.
  - AI systems analyze plant health and adjust water, nutrients, and light for optimal conditions.
- **IoT Sensors and AI Integration**
  - IoT devices monitor real-time parameters (e.g., humidity, temperature, and CO2 levels).
  - AI predicts diseases, reduces waste, and ensures resource-efficient operations.

2. Lower Costs and Environmental Sustainability

- **Cheaper Infrastructure**
  - Using repurposed shipping containers and empty urban buildings reduces the cost of setting up vertical farms.
  - Prefabricated modular systems make farms easy to scale in smaller spaces.

● **Renewable Energy Solutions**

○ Solar panels, wind turbines, and waste-to-energy systems power farms, cutting operational costs and emissions.

○ Closed-loop water recycling systems save up to 90% more water than traditional farming.

3. Crop Variety Expansion

● **Beyond Leafy Greens**

○ Vertical farms now grow fruits like strawberries, tomatoes, and blueberries, as well as herbs and microgreens.

○ Experiments with root vegetables (carrots, radishes) and grains (quinoa, rice) are proving successful.

● **High-Value Specialty Crops**

○ Medicinal plants, spices, and exotic herbs are being cultivated for niche markets, including pharmaceuticals.

4. Urban Integration

● **Smart City Partnerships**

○ Cities incorporate vertical farms into urban planning to supply local food markets and reduce food transportation.

○ Farms are integrated into residential or commercial buildings, providing fresh produce directly to consumers.

● **Community Engagement**

○ Urban vertical farms serve as educational hubs, teaching sustainable agriculture to communities.

○ Shared farming spaces encourage local participation and foster sustainable food habits.

5. Investment and Policy Support

● **Increased Funding**

○ Governments offer subsidies for vertical farming projects using renewable energy or recycling technologies.

○ Private investments in agricultural technology startups fuel rapid innovation.

● **Supportive Policies**

○ Urban zoning laws now accommodate vertical farming, encouraging its adoption in crowded cities.

○ Tax breaks are available for sustainable farming practices and energy-efficient solutions.

6. Overcoming Challenges

- **High Initial Costs**
  - Modular systems and public-private partnerships are making vertical farms more affordable.

- **Limited Crop Variety**
  - Continuous research is enabling the successful cultivation of a broader range of crops.
- **Energy Dependency**
  - Integration with renewable energy sources mitigates the risk of high operational energy costs.

Key Benefits

- Produces 10-20 times more food per square meter than traditional farming.
- Saves up to 95% of water compared to conventional methods.
- Reduces food miles, ensuring fresher produce and lower transportation emissions.
- Provides consistent yields year-round, unaffected by weather or seasons.

By
M. Deepika
22761A04H3

REVIEW WRITINGS ON LATEST HAPPENINGS

Swarm Robotics: An Overview

Swarm robotics is an emerging field of robotics inspired by the collective behavior of natural swarms, such as ants, bees, and fish. It involves the design and coordination of large groups of relatively simple robots that work collaboratively to accomplish complex tasks.These system are characterized by decentralized control, scalability, and robustness, making them ideal for applications in dynamic and unpredictable environments.

Key Principles of Swarm Robotics

1. Decentralized Control:

○ Each robot operates autonomously based on local rules and interactions without a central Command.

2. Scalability:

○ The systems performance improves with the addition of more robots, ensuring adaptability to various scales of operations.

3. Emergent Behavior:

○ Complex group behavior arises from simple individual actions and interactions.

4. Robustness:

○ The system can tolerate individual robot failures without significant degradation in overall performance.

Technologies Enabling Swarm Robotics

1. Communication:

○ Robots communicate through short-range wireless networks (e.g., Bluetooth, Zigbee) or environmental signals.

2. Sensing:

○ Use of onboard sensors like cameras, LIDAR, and proximity detectors for navigation and interaction.

3. Machine Learning:

○ Algorithms allow robots to adapt, optimize behavior, and learn from interactions.

4. Distributed Algorithms:

○ Algorithms ensure coordination among robots without centralized control, such as task allocation and path planning.

Applications of Swarm Robotics

1. Search and Rescue:

○ Swarm robots can efficiently search disaster zones for survivors and map hazardous environments.

○ Example: Locust-inspired robots exploring collapsed buildings.

2. Agriculture:

○ Swarm robots are used for planting, pest control, and crop monitoring.

○ Example: Small drones pollinating crops collaboratively.

3. Environmental Monitoring:

○ Swarms can monitor air and water quality, track pollutants, and gather ecological data.

○ Example: Aquatic robots working in synchronization to clean water bodies.

4. Warehouse Automation:

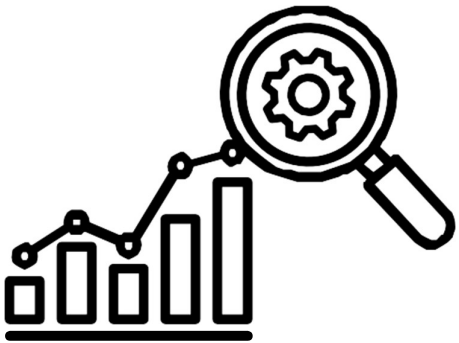
○ Swarms optimize logistics by collaboratively transporting goods and organizing inventory.

○ Example: Kiva robots used by Amazon for automated storage and retrieval.

5. Military and Defense:

○ Swarms are used for reconnaissance, surveillance, and combat support.

○ Example: Swarm drones providing real-time battlefield intelligence.



6. Construction:

○ Collaborative robots build structures in inaccessible or dangerous environments.

○ Example: Termite-inspired robots assembling modular constructions.

7. Healthcare:

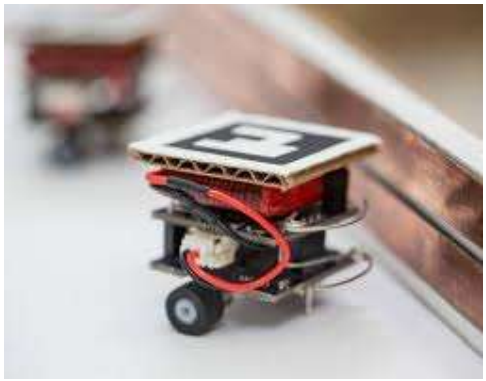
○ Micro or nano-robot swarms deliver drugs or perform minimally invasive medical procedures.

○ Example: Magnetic nano-robots used for targeted drug delivery in blood vessels.

8. Space Exploration:

○ Swarms explore planetary surfaces, collect samples, and build habitats.

○ Example: NASA's research on autonomous rover swarms for Martian exploration.



Advantages of Swarm Robotics

1. Cost-Effectiveness:

○ Small, simple robots are cheaper to produce than a single sophisticated robot.

2. Resilience:

○ Failure of individual robots does not impact the system significantly.

3. Flexibility:

○ Swarms adapt to changing environments and tasks dynamically.

4. Parallelism:

○ Tasks are divided among multiple robots, improving efficiency and speed.

By

P. Kalyani (22761A04H9)

Tesla Cyber truck Review

As Tesla begins delivering its Cyber truck in 2024, the electric pickup is shaping up to be a revolutionary vehicle for the automotive industry. Below is a deeper dive into its additional features, performance metrics, and user experience aspects that highlight why the Cyber truck is making waves.

1. Build Quality and Durability: Unmatched Toughness

One of the most talked-about features of the Cyber truck is its ultra-durable exoskeleton, made from 30X cold-rolled stainless steel. The design is not just for show; it's intended to provide superior resistance to dents, scratches, and corrosion.

- **Pros**:

o Resilience: The body can withstand significant impact, and Tesla claims it won't rust, even after exposure to saltwater or harsh conditions.

o Self-Healing: Tesla's cold-rolled stainless steel is said to be scratch-resistant and capable of maintaining its integrity under most conditions.

- **Cons**:

○ Weight: The steel construction contributes to the Cyber trucks hefty weight, which could reduce efficiency and increase strain on battery life.

○ Practicality: The highly reflective surface, while durable, may not be to everyone's taste aesthetically.

2. Off-Road and Utility Capabilities: Built for Adventure

The Cyber truck excels in off-road performance, thanks to its adjustable air suspension and heavy-duty features. It's built to perform in challenging conditions, making it the perfect companion for those who need a workhorse that can handle rough terrain.

● **Key Features**:

○ **Off-Road Mode**: Activating this mode gives the truck higher ground clearance and enhanced shock absorption, allowing for smoother rides across uneven surfaces.

○ **Water Fording**: The truck's design allows it to ford shallow rivers and waterlogged areas without damage.

○ **Payload**: With its rugged design, it has a maximum payload of 3,500 pounds, which allows for heavy-duty tasks such as transporting equipment and supplies.

3. Technology and Interior: A Futuristic Touch

Tesla is known for pushing the envelope when it comes to technology, and the Cyber-truck is no exception. The interior has a clean, minimalist design, with most functions controlled via a large touchscreen.

○ **Advanced Infotainment System**: The 17-inch central touchscreen offers access to navigation, entertainment, and vehicle diagnostics. Tesla's software suite ensures that updates are delivered over-the-air, improving the vehicle over time.

○ **Seating and Space**: The interior can comfortably seat six passengers with its unique seating arrangement. The materials are durable and easy to clean, ideal for a vehicle that is likely to be used for work and recreation.

○ **Climate Control**: Tesla's climate control system ensures the cabin remains comfortable, even in harsh weather conditions.

4. Autopilot and Full-Self Driving (FSD) Capabilities

Tesla continues to lead in autonomous driving technology, and the Cyber-truck comes equipped with the Full-Self Driving (FSD) package, which includes the following:

● **Autopilot**: Assists with lane centering, adaptive cruise control, and emergency braking.

● **Self-Parking**: The Cyber-truck can park itself with the help of cameras and sensors.

● **Navigate on Autopilot**: It can automatically change lanes on highways and follow navigation instructions for long-distance drives.

● **Future Updates**: Tesla's FSD system continues to evolve, with features like automatic city driving and full autonomy being rolled out gradually.

5. Charging and Range: Optimized for Long Hauls

The Cyber truck has been designed for long-haul drives, offering a competitive range in the electric truck market.

● **Range**: The tri-motor variant offers up to 500 miles on a single charge, ideal for long trips and heavy-duty tasks. The dual-motor version provides around 300 miles of range, which is still impressive for an electric truck.

● **Charging Speed**:

○ Supercharger Network: Tesla's extensive Supercharger network ensures fast Charging times, allowing drivers to charge up to 80% in about 30 minutes.

○ Solar Charging: The optional solar roof can add additional mileage, though it's limited to sunny days.

6.Verdict

The Tesla Cyber truck stands out as an electric truck that redefines what's possible in the automotive world. With its combination of rugged durability, cutting-edge technology, and excellent performance, it's a game-changer for those looking for a truck with future-forward capabilities.

● **Who Should Buy It**: Those who want a high-performance, eco-friendly vehicle with the versatility to handle work and adventure.

● **Who Might Pass**: Those who prefer traditional truck designs or those who don't need the extreme performance capabilities the Cyber-truck offers.

By

Ch. Khyathi Sree

(22761A04E3)

How Effective Are AI Tutors for Learning?

In 2024, AI tutors have become a popular and innovative tool for educational purposes, assisting students across various levels of learning. With the rapid advancement of artificial intelligence (AI), many are questioning how effective these virtual tutors are in comparison to traditional teaching methods. Here's an in-depth review of AI tutors, exploring their effectiveness, strengths, challenges, and potential.

1. Personalized Learning: Tailored to the Student

One of the biggest advantages of AI tutors is their ability to personalize the learning experience. Traditional teaching methods often follow a one-size-fits-all approach, which can be challenging for students with different learning paces and styles. AI tutors, however, can adapt to a student's individual needs, creating customized learning paths based on performance.

- **Pros**:
  - **Pacing and Difficulty**: AI tutors adjust the difficulty of questions or exercises based on the student's current understanding. They help students move forward at their own pace without feeling rushed or held back.
  - **Learning Style Adaptation**: AI can identify the most effective learning style for a student (visual, auditory, kinesthetic, etc.) and tailor the content to maximize retention and comprehension.
- **Cons**:
  - **Limited Emotional Understanding**: AI tutors do not have the capability to fully understand a student's emotional state, which may impact their ability to motivate or provide emotional support, a critical part of learning.

2. 24/7 Availability: Learning Anytime, Anywhere

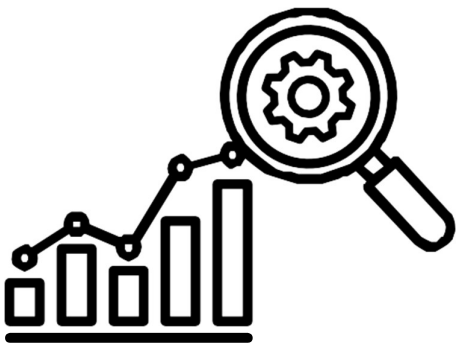
AI tutors are available around the clock, allowing students to access learning resources whenever they need them. This is especially beneficial for students who may have irregular schedules, need extra help outside school hours, or live in different time zones from their instructors.

- **Pros**:
  - **On-Demand Help**: Students can get assistance at any time, without waiting for office hours or scheduled sessions.
  - **Self-Directed Learning**: With access to an AI tutor, students can take control of their learning process, reinforcing concepts and practicing problems without feeling embarrassed or discouraged.
- **Cons**:
  - **Lack of Human Interaction**: While available 24/7, AI tutors lack the human touch and cannot replicate the dynamic nature of in-person teaching. They also can't provide the nuanced guidance that an experienced teacher might.

3. Instant Feedback and Assessment: Real-Time Progress Tracking

AI tutors provide instant feedback on quizzes, assignments, and practice problems, helping students understand what they did right or wrong immediately. This can be incredibly useful for reinforcing learning.

- **Pros**:
  - **Immediate Corrections**: The ability to correct mistakes right away helps students understand concepts more deeply and avoid reinforcing bad habits
  - **Data-Driven Insights**: AI tutors track student progress and performance over time, offering valuable insights into strengths and areas that need improvement. This can help guide the learning plan going forward.
- **Cons**:
  - **Over-Reliance on Feedback**: Some students may rely too heavily on AI feedback and miss out on developing problem-solving or critical thinking skills that are often gained through discussions or human interactions.



4. Scalability: Reaching More Students

AI tutors can scale to accommodate large numbers of students simultaneously, which can be especially beneficial in crowded classrooms or for subjects that are in high demand. These tutors can be deployed in online learning environments, helping bridge the gap between teacher availability and student need.

● **Pros**:

○ **Cost-Effective**: AI tutors can be used to reduce the financial and logistical burden on schools and universities, providing educational resources to underserved areas and helping to reduce class sizes.

○ **Consistent Quality**: Unlike human instructors, AI tutors don't experience fatigue, ensuring that every student receives the same level of attention and resources.

● **Cons**:

○ **Lack of Social Skills**: In large-scale settings, AI tutors cannot replicate the social learning environment that comes with interacting with classmates and teachers, which is often an important part of education.

By
K. Hemalatha
22761A04F6

POETRIES

Whispers of Dawn

The first light breaks upon the quiet hill,
A gentle breeze stirs leaves in morning's chill.
The sky, a canvas painted soft with hue,
Unveils the promise of a day that's new.
Birdsong weaves through air, a joyful sound,
A melody where hope and peace are found.
The dew-kissed grass, aglow in morning's gleam,
Reflects the beauty of a waking dream.
Shadows retreat as sunlight warms the earth,
A timeless cycle giving life its birth.
Each moment fleeting, yet profoundly deep,
A treasure trove that hearts and souls shall keep.
O dawn, your whispers echo through the air,
A gentle call to rise, to dream, to dare.

By
Y. Mythri
(23761A04D2)

A Dance with the Sea

Beneath the heavens vast and wide,
The ocean calls, a rhythmic tide.
Its waves, a song both wild and free,
Whisper secrets to the sand and me.
Silver moonlight kisses crests so high,
A mirror of stars in the midnight sky.
The salty breeze, a cool embrace,
Draws laughter forth in this sacred space.
The tide retreats, a fleeting guest,
Leaving treasures upon the shore to rest.
Shells that hum with stories untold,
Carrying whispers of depths so cold.
Oh, endless sea, your song is mine,
A timeless waltz through space and time.

By
Y. Lakshmi Narendra Babu
22761A04J8

The Turning of the Tassel

Today we stand on hallowed ground,
Where dreams take flight, no longer bound.
The world awaits with open arms,
Its trials, its truths, its endless charms.
The halls we've roamed, the paths we've tread,
Are memories now, a golden thread.
The laughter shared, the lessons learned,
The fires of knowledge brightly burned.
Our caps aloft, we dare to soar,
To seek, to strive, to know much more.
Yet as we step to what's unknown,
Our hearts hold fast to seeds we've sown.
With every cheer, with every tear,
We bid farewell to yesteryear.
The future calls, its voice so clear,
A canvas wide for us to steer.
Though parting paths, we're not apart,
For every end sparks a new start.
So here's to us, this milestone done,
A journey closed, yet just begun.

By
P. Ramesh Chand
23761A0446

The Echo of Solitude

Alone beneath the moonlit sky,
I hear the winds, they softly sigh.
The stars above, they seem so near,
Yet cannot touch the void I fear.
The streets are still, the world at rest,
A heavy ache swells in my chest.
No voices call, no footsteps trace,
Just shadows linger in this space.
A thousand thoughts, they come and go,
Like fleeting whispers, soft and low.
Each memory, a bittersweet sting,
A song of what was, echoing.
The silence speaks, a quiet friend,
That holds me close as night extends.
Yet in its arms, I feel the weight,
Of yearning for a kinder fate.
But even in this hollow state,
A flicker stirs — it's never too late.
For loneliness, though deep and vast,
Is but a shadow, it too shall pass.

By
N. Theja Sri
21761A0436

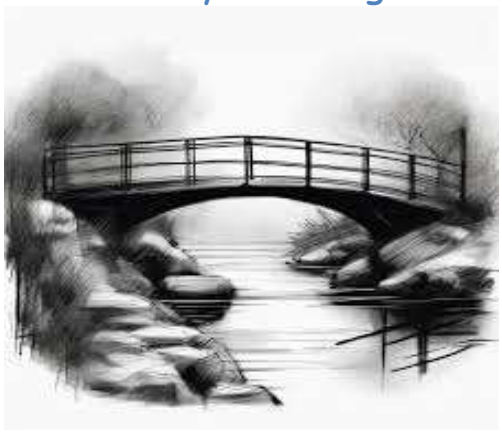
Winds of Prosperity

The seeds we sow with care and grace,
Will bloom to fill the empty space.
Through steady hands and patient toil,
We turn the earth, we claim the soil.
The sun may scorch, the rain may fall,
Yet through it all, we stand tall.
For every trial, each test we face,
Builds the path to a brighter place.
Prosperity whispers, calm and clear,
A promise born of hope and cheer.
It's not just wealth or fleeting gain,
But peace of mind, a life sustained.
Through kindness, courage, and resolve,
Our dreams take shape, our lives evolve.
With every step, a legacy,
Of joy, of love, of harmony.

By
N. Durga Jayanth
21761A0466

Drawings

Beauty of Bridge



By

Y. L. Narendra Babu

22761A04J8

Leopard

By

Y. Kanaka Durga. (22761A0466)

The Eye

By

Y. Mythri

23761A04D2

Ram Krishna

By

Y. Rama Lakshmi

22761A04D2

PUZZLE

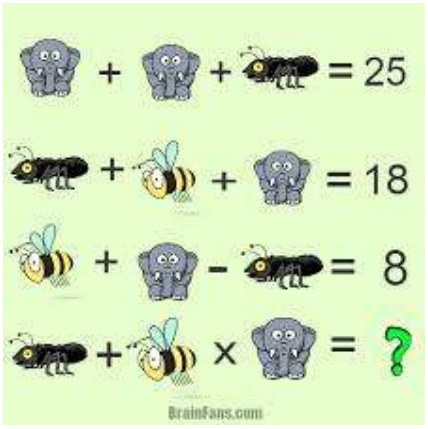
PUZZLE-1

By

O. Hema Sai Sri Chandana

22761A04H5

PUZZLE-2



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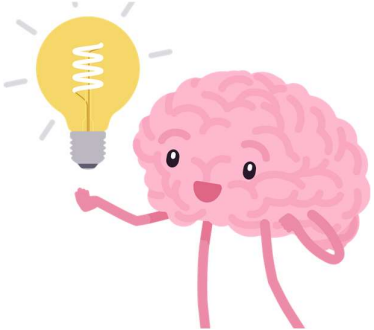
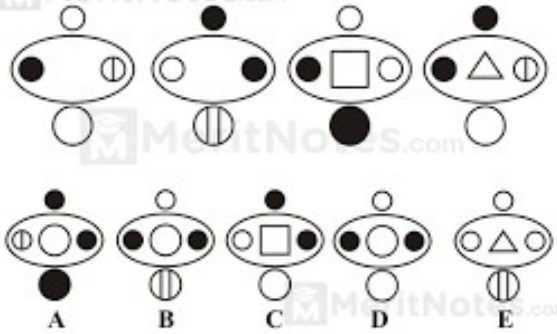
T. Parasuram (22761A0457)



PUZZLE-3

What comes next in the above sequence?



By

MUDIKONDA HARIKRISHNA

22761A04H1

PUZZLE-4

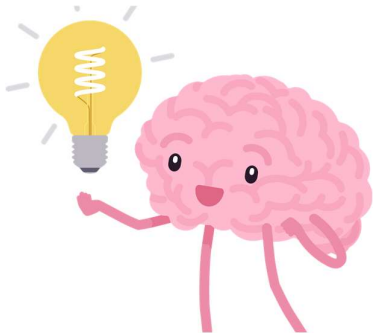
Which of the statements, if any, are true?

1. In this list exactly 1 statement is false.
2. In this list exactly 2 statements are false.
3. In this list exactly 3 statements are false.
4. In this list exactly 4 statements are false.
5. In this list exactly 5 statements are false.
6. In this list exactly 6 statements are false.
7. In this list exactly 7 statements are false.
8. In this list exactly 8 statements are false.
9. In this list exactly 9 statements are false.
10. In this list exactly 10 statements are false.

By

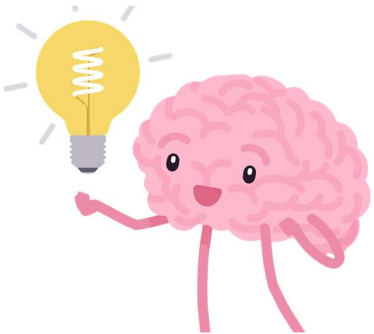
Sk. Asra

(22761A04I6)



PUZZLE-5

By
P. Leela Pravallika
22761A04H7



CARTOONS

CARTOON-1

By

Y. Kanaka Durga

22761A0466

CARTOON-2

By

R. Teja Nuthan

22761A04I1

STORIES

Count Wisely

One day, king Akbar asked a question in his court that left everyone in the courtroom puzzled. As they all tried to figure out the answer, Birbal walked in and asked what the matter was. They repeated the question to him.

The question was, “How many crows are there in the city?”

Birbal immediately smiled and went up to Akbar. He announced the answer; he said there were twenty-one thousand, five hundred and twenty-three crows in the city. When asked how he knew the answer, Birbal replied, “Ask your men to count the number of crows. If there are more, then the relatives of the crows must be visiting them from nearby cities. If there are fewer, then the crows from our city must be visiting their relatives who live outside the city.” Pleased with the answer, Akbar presented Birbal with a ruby and pearl chain.

Moral of the Story

Having an explanation for your answer is just as important as having an answer.

By

Y. Kanaka Durga

(22761A0466)

The Fox and the Stork

One day, a selfish fox invited a stork for dinner. Stork was very happy with the invitation – she reached the fox's home on time and knocked at the door with her long beak. The fox took her to the dinner table and served some soup in shallow bowls for both of them. As the bowl was too shallow for the stork, she couldn't have soup at all. But, the fox licked up his soup quickly.

The stork was angry and upset, but she didn't show her anger and behaved politely. To teach a lesson to the fox, she then invited him for dinner the next day. She too served soup, but this time the soup was served in two tall narrow vases. The stork devoured the soup from her vase, but the fox couldn't drink any of it because of his narrow neck. The fox realised his mistake and went home famished.

Moral of the Story

A selfish act backfires sooner or later!

By

K. Bhavitha

(22761A0425)

The Milkmaid and Her Pail

Patty, a milkmaid milked her cow and had two full pails of fresh, creamy milk. She put both pails of milk on a stick and set off to the market to sell the milk. As she took steps towards the market, her thoughts took steps towards wealth. On her way, she kept thinking about the money she would make from selling the milk. Then she thought about what she would do with that money.

She was talking to herself and said, “Once I get the money, I’ll buy a chicken. The chicken will lay eggs and I will get more chickens. They’ll all lay eggs, and I will sell them for more money. Then, I’ll buy the house on the hill and everyone will envy me.” She was very happy that soon she would be very rich. With these happy thoughts, she marched ahead. But suddenly, she tripped and fell. Both the pails of the milk fell and all her dreams were shattered. The milk spilt onto the ground, and all Patty could do was cry. “No more dream,” she cried foolishly!

Moral of the Story

Do not count your chickens before they are hatched.

By
K. Navitha
22761A04F8

E-Resources

DOAJ (Directory of Open Access Journals)

A database of peer-reviewed journals and publications These journals cover all fields of engineering and other disciplines. The journals listed on DOAJ go through a rigorous evaluation process to ensure that they meet high academic and publishing standards, which makes the resources reliable for research and academic reference.

https://doaj.org/

MIT OpenCourseWare

Perfect for self-learners and students looking for additional study resources.

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Coursera offers free courses from top universities around the world, with the option to audit courses for free (you only pay if you need a certificate).

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BookBoon

This site offers free textbooks on subjects like engineering mathematics, materials science, mechanical engineering, and more. Great for getting comprehensive notes.

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All About Circuits (Free Tutorials & Resources)

All About Circuits is an online resource that provides free electronics tutorials, articles, and discussions related to electrical engineering. It's particularly useful for students working with circuit design, microcontrollers, and electronic components.

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