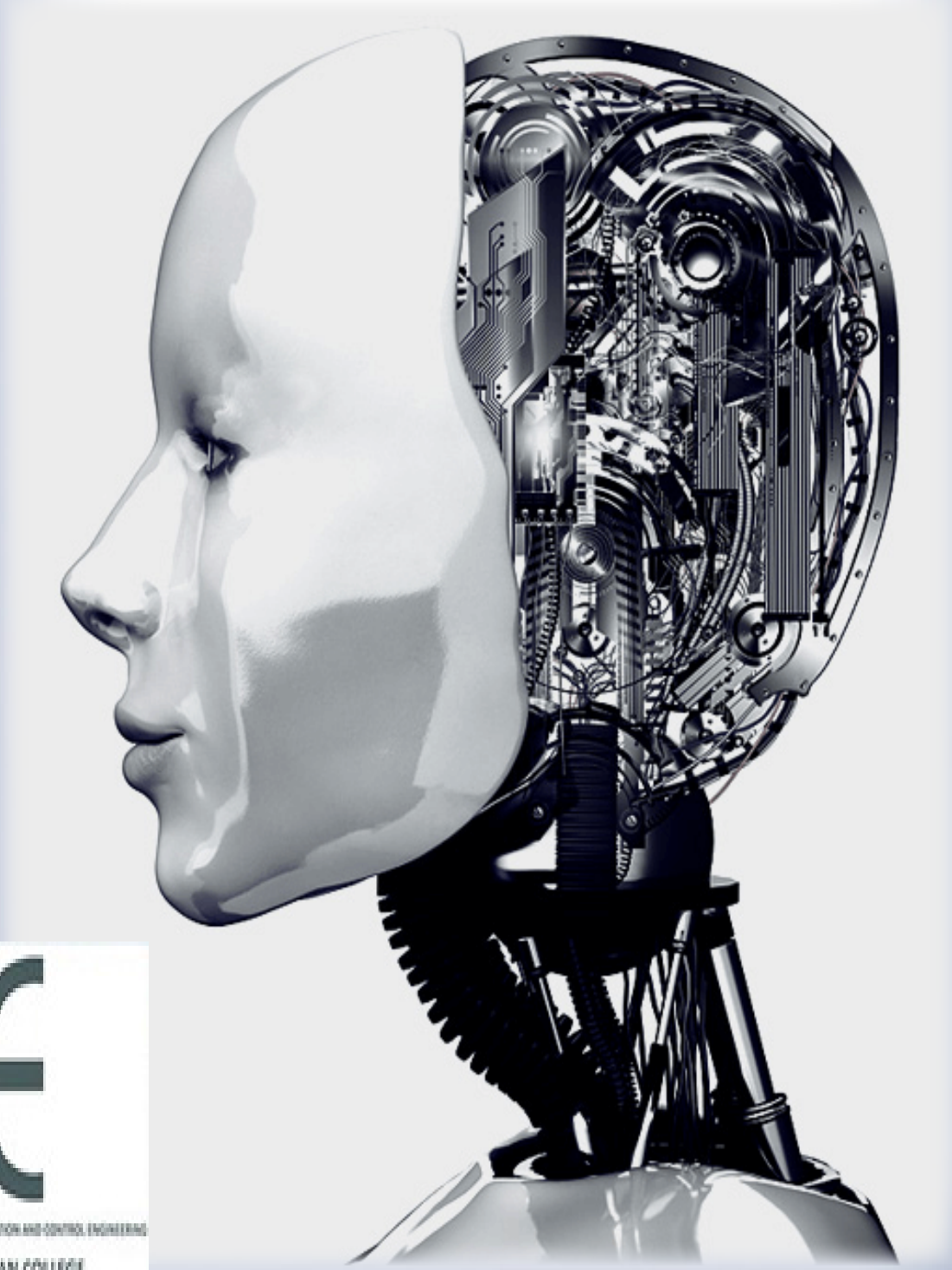
iCERYX

The Voice Of ICE

VOLUME 6, ISSUE 1



DEPARTMENT OF INSTRUMENTATION AND CONTROL ENGINEERING
SARANATHAN COLLEGE OF ENGINEERING

FOREWORD :

The Department of Instrumentation and Control Engineering appreciates and encourages this effort put in by the students in creating the it's very own eMagazine – iCERYX. The department always seeks to engage its students in all growth oriented activities by facilitating arenas to develop and portray their various skills. We, as a department, believe that if the students are given the right input and motivation, the students will deliver their full potential. We wish to see more outcomes in the future and we hope that this eMagazine will be carried on for the future generations of students of ICE and we look forward to more such outcomes.

-Dr.S.M.Girirajkumar
HoD/ICE

FROM THE EDITORIAL BOARD :

As you know, there have been quite a lot of activities going on in our department lately and we have been having a lot of good changes and improvements in our family. Every good thing that happens to us is supposed to be shared with the world around us. This is truly a student-run, student magazine exclusively for ICE where we collect, collaborate and share the creations and achievements of the students of our department. We hope that you all wouldn't forget to go through the e-magazine and give your valuable reviews.

PR TEAM
IRFHANNA AMEER .B, FINAL YEAR
MILAN PATEL .R, FINAL YEAR
AKASHSAMI .R, PRE-FINAL YEAR
KIRTHIKA .V, PRE-FINAL YEAR
NISHA FRANCY ., PRE-FINAL YEAR
MAHALAKSHMI .S.P, PRE-FINAL YEAR
SHARVIN SHAKESH .P, PRE-FINAL YEAR
SURYA .S, PRE-FINAL YEAR

CONTENTS

How to control your Mind?

How to control your mind ? How often do you get that strange feeling that your head is buzzing and you can't seem to think straight? Do you often feel like you're over-thinking and blowing things out of proportion? Are you often crying and complaining about your problems.

It happens, and it's not always wrong. But sometimes it's just your mind playing tricks. It's true when people say, "It's all in the mind" and quite often our problems are directly proportional to what we make of them inside our head. We always have the option of magnifying or minimizing our problems by taking control of our mind and thinking about things differently.

How to control your mind?

The mind likes to wander, but you've got to latch on to it. There are many ways by which you can control your mind and keep it fit.

1. Take a Step Back

Quite often when faced with a problem, we tend to react. Our mind gets emotional instead of rational. That's when we need to take a step back, control ourselves, and rationalize. The rational mind is more mature than the emotional one. It looks at things with a detachment that is important in decision-making and in problem-solving.

2. Tell Yourself the Right Things

It's true when they say you are what you tell yourself. If we keep sending the wrong messages to our brain, sooner than later these will begin to show up in our thinking.

If we keep dwelling on our failures, over the course of time, we will stop motivating ourselves to try new things because of the fear of failure. However, if we take things as they come and try to keep calm even in difficult situations, the mind will condition itself to work that way and you won't be bursting into tears and becoming a nervous wreck every time something goes wrong.

3. Don't Bottle up

In the course of a day, a million things cross our mind. A lot of these get involuntarily filtered out, others get stored in momentary memory, but a few run deep. Everyone has some things that they only keep to themselves. More often than not, these are negative emotions and feelings we are afraid to share.

We may think that by closeting them in our mind, we will forget. But the truth is that bottling up starts filling up and clogging your mental space and starts showing up in your thinking and actions. How often does it happen that bottled anger causes us to pick up unnecessary fights or depression causes us to forget something totally unrelated?

Deal with your problems and emotions, don't store them up, allowing them to fester. Cry it out, write it out, blurt it out to a confidante—the cure lies in venting not storing.

CONTROL YOUR MIND CONTROL YOUR LIFE.

4. Mental Assistance

The mind can always use some support, much like an overworked employee. If you have too many things to do or remember, or are thinking hard about something, put it on a paper. Lists, mind maps, cue cards—there are many ways by which you can organize information without letting it take up more room inside your head. That's why these measures also help to "clear" your mind.

5. Keeping Yourself Occupied

Even as mental assistance is helpful, it is also important to keep the mind "busy." The mind is like a machine. If it's not used well and oiled with positive reinforcement, it will get rusty. How to Control your mind? The best way to keep your mind healthy is to keep yourself occupied.

Do different things, some that are mechanical and don't require too much thinking, and others that are creative and need you to think differently. For example, daily household chores or fil-

ing tasks are mechanical, while pursuing a hobby, such as reading, writing, or painting, is creative. Try to take out time for both these types of things regularly.

6. Exercise

Everyone looks at exercise as a means to physical fitness, but it's just as important for mental well-being. Don't think. Take out at least 150 minutes of exercise every week. Sweat it out and ensure that the exercise is at an intensity that forces you to clear out all thoughts and simply focus on your body movement.

Even if you get tired, force yourself to continue. The trick lies in pushing yourself—block the "I'm too tired" messages from your mind, and keep your body going.

7. Deep Breathing

Inhaling and exhaling deeply injects a burst of oxygen supply, which works like a tonic. When you feel overwhelmed, take a minute and deep breathe. Do this as often as you like, feel free to make it part of your daily routine.

8. Eat right

Nutritionists suggest that some nutrients like Omega-3 fatty acids and vitamins like E and K, help to keep your brain healthy. So even as you diet to keep your body in shape, also ensure that your food contains nutrients that are good for your brain, too. Keep walnuts and almonds handy, munch on flax seeds, bite into an apple or include tomatoes in your salad—there are plenty of options to experiment with.

YOU EITHER CONTROL YOUR MIND OR IT CONTROLS YOU.

- MS. B DEEPA, M.E.
ASSISTANT PROFESSOR
ICE

SPORTS ACHIEVEMENT

S.NO	NAME	YEAR	ACHIEVEMENT	PLACE
1.	ABBAS ABDUL SALAM .S	III	1. GOLD MEDAL IN SHOTPUT 2. GOLD MEDAL IN BASKET-BALL	SARANATHAN COLLEGE OF ENGINEERING
2.	MANOJ KUMAR .G	III	1. SILVER MEDAL IN “10K” 2. GOLD MEDAL IN BASKET-BALL 3. SILVER MEDAL IN KHO-KHO	SARANATHAN COLLEGE OF ENGINEERING
3.	RAJESH KUMAR .S	III	SILVER MEDAL IN KHO-KHO	SARANATHAN COLLEGE OF ENGINEERING
4.	RAVIENDRAN .P .K			
5.	PRABHAKARAN .B			
6.	RAJESH KUMAR .S			
7.	JEEVAN RAJ .J			
8.	JEEVAN RAJ .J	III	3RD PLACE IN BODY BUILDING UNDER 70KG CATEGORY	SASTRA UNIVERSITY COLLOSEUM
9.	SHANAWAZ .S .N	IV	3RD PLACE IN FOOTBALL	ZONAL LEVEL
10.	RIYAZDEEN .S	IV		
11.	GURU PRASSATH .V .K	IV		
12.	SAMINATHAN	IV	2ND PLACE IN CHESS	ZONAL LEVEL
13.	KIRUBA GOVIND BANGARU .T	IV	3RD PLACE IN BASKETBALL	ZONAL LEVEL
14.	GANESH KUMAR .K	IV	2ND PLACE IN SHUTTLE	ZONAL LEVEL
15.	GURU PRASSATH .V .K	IV	1ST PLACE IN 100,200,(4*100)M	ZONAL LEVEL
16.	SHANAWAZ .S .N	IV	3RD PLACE IN RELAY (4*400)M	ZONAL LEVEL
17.	RIYAZDEEN .S			
18.	SHIVA SHANKAR	I	3RD PLACE IN BASKETBALL	ANNA UNIVERSITY ZONAL LEVEL
19.	BENITO RICHARDSON	I	3RD PLACE IN HIGH JUMP	SARANATHAN COLLEGE OF ENGINEERING
20.	PRANAV SAJESH	I	2ND PLACE IN KHO-KHO	SARANATHAN COLLEGE OF ENGINEERING
21.	NITHIS ROSHAN			
22.	HARIHARAN	I	1. 1ST PALCE IN TRIPLE JUMP 2. 2ND PLACE IN LONG JUMP	SARANATHAN COLLEGE OF ENGINEERING

STUDENT ACHIEVEMENTS

NAME / YEAR	COLLEGE NAME	PLACE	EVENT NAME	PRIZE
A. YAAMINI / 3	IIT MADRAS	CHENNAI	SHAASTRA 2K19 MICROMOUSE MAZE (PROBE 19)	PARTICIPATION
P.K.RAVIENDRAN / 3				
R.S.SANCHHALI / 3				
R. AAKASH / 3				
A. YAAMINI / 3	NIT	TRICHY	OPTICAL CONTROL RECOGNIZATION WORKSHOP	PARTICIPATION
P.K.RAVIENDRAN / 3				
R.S.SANCHHALI / 3				
R. AAKASH / 3				
IRFHANNA	SARANATHAN COLLEGE OF ENGINEERING	TRICHY	PROCESSOR FOR BRAINY	I PRIZE- 40000
A. YAAMINI	NIT	TRICHY	“CURRENTS 19“ GESTURE CONTROLLED ROBOT WORK-SHOP	PARTICIPATION
R. S. SANCHHALI				
G. NIVASHINI DEVI				
B. IRFHANNA AMEER				
K. A. SRIVIDHYA				
N. RUKUMANI				
B. AKSHYA				
R. AAKASH				
MILAN PATEL	ECKOVATION		WORK FROM HOME INTERNSHIP AS CAMPUS A MBASSADOR	
B. AKSHAYA	EXCEL COLLEGE OF ENGINEERING	NAMAK-KAL	PAPER PRESENTATION	I PRIZE

STUDENT ACHIEVEMENTS

NAME	COLLEGE NAME	PLACE	EVENT NAME	PRIZE
R. SARANYA DEVI	SAVEETHA COLLEGE	CHENNAI	PAPER PRESENTATION	PARTICIPATION
	MIT		iOT IN AUTOMATION WORKSHOP	
A. YAAMINI	NIT	TRICHY	PRAGYAAN 2K19 - JALYAAN	PARTICIPATION
P.K. RAVIENDRAN				
M. KARTHIK	SARANATHAN COLLEGE OF ENGINEERING	TRICHY	ENTREPRE-NEURSHIP WORKSHOP FOR 3 DAYS	PARTICIPATION
B. SAKTHIVEL				
T. VENUBALAN				
S. SRI VIGNESH				
R.S. SARAN KUMAR				

STUDENT ACHIEVEMENTS

DAKSH 2019, SASTRA UNIVERSITY

- **AHAMED ZUHOOR** and **RAVIKIRAN** from II year ICE have banged **FIRST PRIZE** by presenting their idea on the topic **HOMER SMART GRID.**

- **AHAMED ZUHOOR** also banged the **SECOND PRIZE** pairing up with **VARSHINI** of CSE on the topic **LASER AERIAL DEFENSE SYSTEM.**

MECHNOTRON 2019, COIMBATORE INSTITUTE OF TECHNOLOGY

- **KIRTHIKA** and **ANITHA** of III year, **AKASHSAMI, SHARVIN SHAKESH, MAHALAKSHMI** of II year has participated in **LINE FOLLOWER EVENT** held at **CIT, COIMBATORE.**

INTECHO, MADRAS INSTITUTE OF TECHNOLOGY

- **KIRTHIKA** and **ANITHA** of III year has presented a paper on **SMART ATTENDANCE SYSTEM.**

- **KIRTHIKA** and **ANITHA** of III year has presented an idea on **SMART ATTENDANCE SYSTEM.**

- **KIRTHIKA .V** and **BUVANESHWARI .S** of II year and **KIRTHIKA .G, ANITHA .S, P.K.RAVIENDRAN, A. YAAMINI** of III year ICE participated in a **LINE FOLLOWER BOT** event.

CONVERSION OF PLASTIC TO FUEL

A new chemical conversion process could transform the world's polyolefin waste, a form of plastic to fuels. The process involves selective extraction and hydrothermal liquefaction, by this process the plastic waste can be converted to naphtha and by further distillation it can converted into diesel like fuel.

8 million tons of plastic wastes are dumped into ocean per annum, recycling of all plastic are not possible only 9% can be recycled by this process and the output from process can satisfy 4% of annual demand for diesel fuel.

- DHIVAKARAN .V
III YEAR ICE

Next-gen pacemakers could use heartbeats as a power source

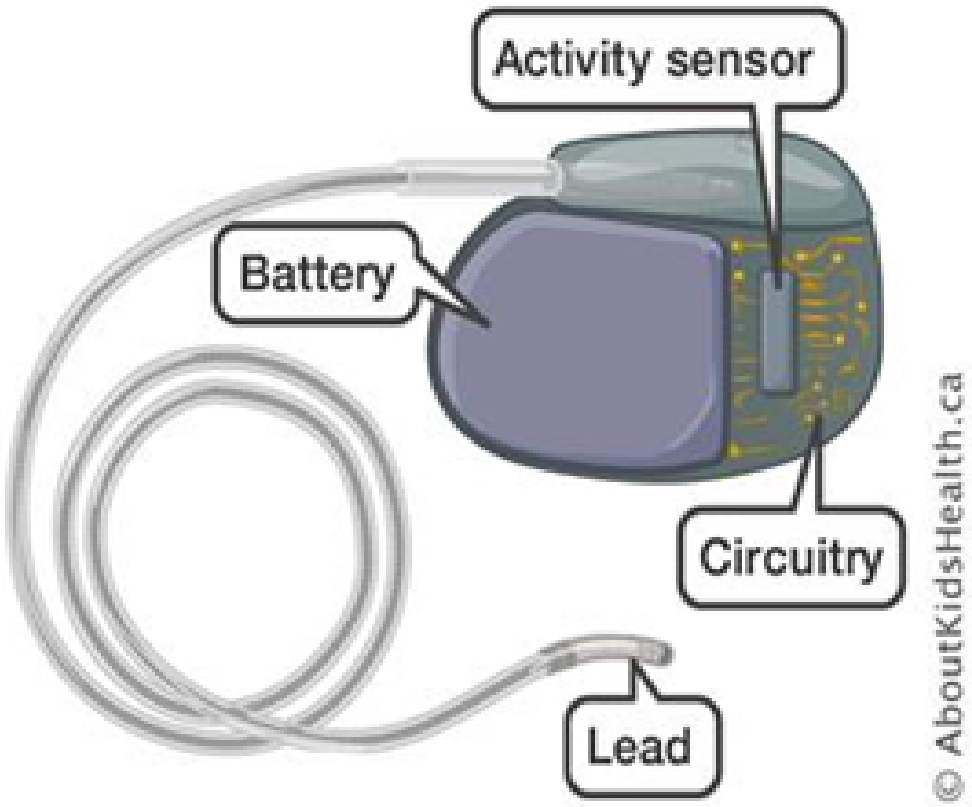
Engineers at Dartmouth University have developed a new method to charge implanted cardiac devices with energy derived from the motion of heartbeats.

Why it matters: A major challenge in medical implant design is reducing device size without sacrificing the battery power and energy needed to sustain biological functions. Because the Dartmouth method enables charging upon use, it may allow for a smaller-sized battery and more comfortable designs that don't carry the risk of surgical complications from replacement.

Background: Heart disease remains the leading cause of death in the U.S. It is estimated that over 800,000 Americans have implanted cardiac devices, with more than 10,000 patients undergoing surgical im

plantation every month. Cardiac devices deliver low-energy pacing and electrical currents to correct heart rhythms and potentially fatal arrhythmias.

- Most are made of titanium and include a pulsed generator with a sealed lithium battery and wires incorporated with electrodes attached to the heart.
- Currently, the batteries in these devices are not rechargeable and typically

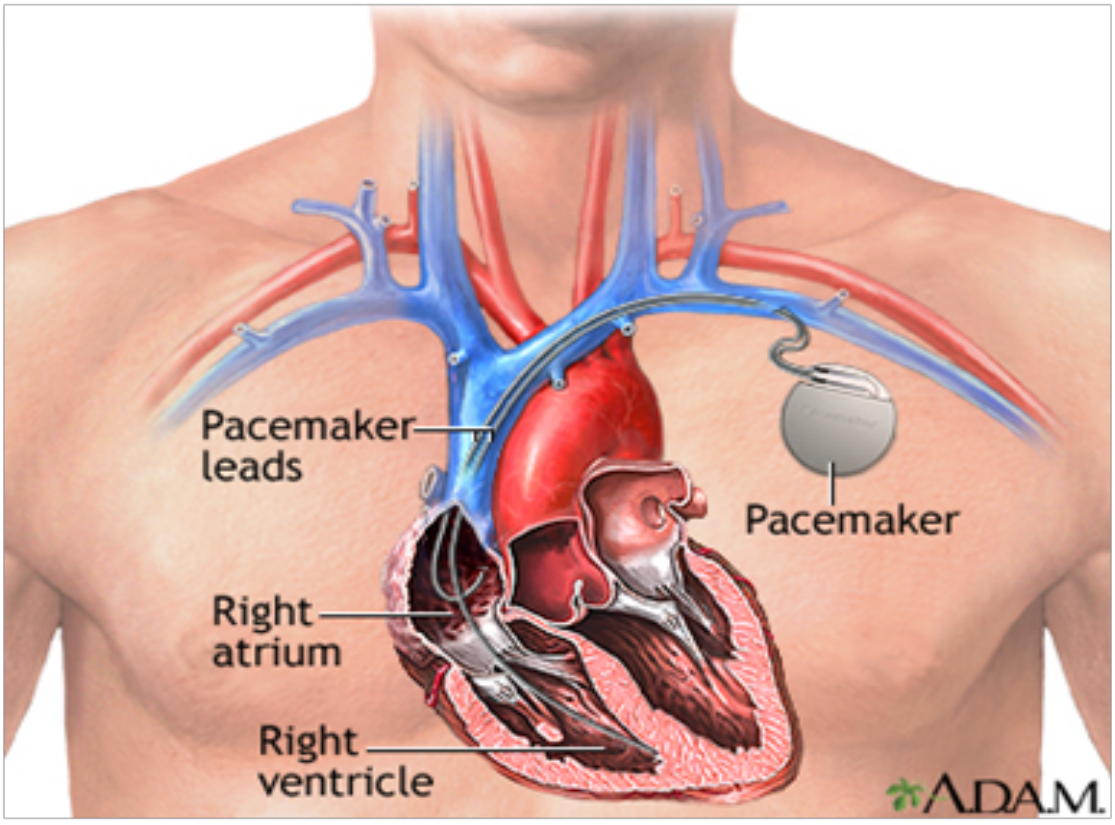


require surgical replacement after 5–12 years. The surgery, although considered minor, always carries risk of infection and death.

What's new: Engineers were able to convert the kinetic energy of the heartbeat into electricity by adding a thin, energy-converting film to existing devices. The Dartmouth innovation follows other improvements made in recent years.

- MRI–compatible devices were approved by the Food and Drug Administration in 2014, allowing patients to have MRI testing previously considered dangerous with prior models.
- Wireless pacemakers with remote charging are also being developedandundergoingtesting.

What to watch: Engineers are currently testing the Dartmouth technology and expect potential market introduction in 5 years.



- VENUBALAN .T
III YEAR ICE

TRANSPLANT WITHOUT DONOR!!!

Failure of human's vital organs leads to death unless a replacement is found. The replacement could be a transplant from another person. But in the current scenario the list of patients in need of transplant are more in number than the list of donors. Also these transplants has the disadvantage of a limited supply and problems with immunorejection. As a solution to this problem researchers have taken the tool of artificial organ development and have been working on ways to grow healthy organs outside the human body.

One such method, called blastocyst complementation, has already produced promising results. Researchers take blastocysts, the clusters of cells formed several days after egg fertilization, from mutant animals missing specific organs and inject them with stem cells from a normal donor, not necessarily of the same species. The stem cells then differentiate to form the entire missing organ in the resulting animal. The new organ retains the characteristics of the original stem cell donor, and can thus potentially be used in transplantation therapy.

"We previously used blastocyst complementation to generate rat pancreas in apancreatic mutant mice," explains lead author of the new study Teppei Goto. "We therefore decided to investigate whether the method could be used to generate functional kidneys, which would have much greater application in regenerative medicine

owing to the high donor demand."

Initial attempts by the researchers to grow rat kidneys in mice proved unsuccessful, as rat stem cells did not readily differentiate into the two main types of cells needed for kidney formation. However, when the reverse scenario was attempted, mouse stem cells efficiently differentiated inside rat blastocysts, forming the basic structures of a kidney.

After being implanted into pseudo-pregnant rats, the complemented blastocysts matured into normal fetuses. Remarkably, more than two thirds of the resulting rat neonates contained a pair of kidneys derived from the mouse stem cells. Further screening showed that all of the kidneys were structurally intact, and at least half could potentially produce urine.

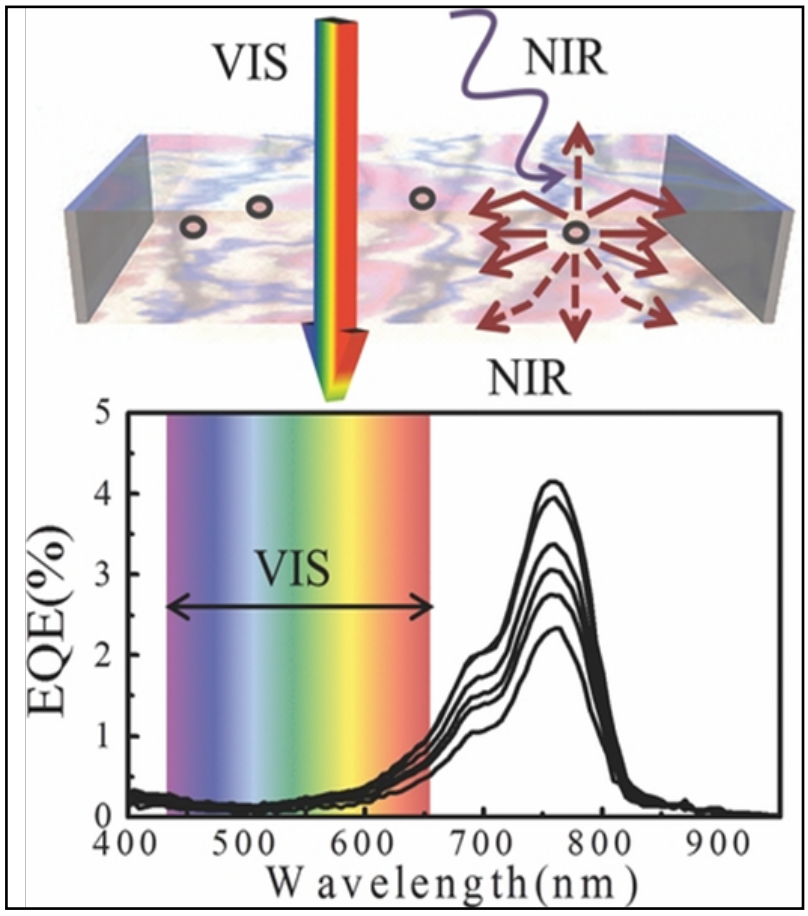
"Our findings confirm that interspecific blastocyst complementation is a viable method for kidney generation," says study corresponding author Masumi Hirabayashi. "In the future, this approach could be used to generate human stem cell-derived organs in livestock, potentially extending the lifespan and improving the quality of life of millions of people worldwide."

Summary: A team led by researchers at the National Institute for Physiological Sciences in Japan attempted to grow mouse kidneys inside rats using transplanted stem cells. The resulting kidneys appeared to be functional, providing proof-of-concept validation that this approach could be used to generate human organs inside livestock.Thus, paving the way for transplants without donors.

- DHARSHINI .C .S
III YEAR ICE

TRANSPARENT SOLAR CELL

Back in August 2014, researchers at Michigan State University created a fully transparent solar concentrator, which could turn any window or sheet of glass (like your smartphone's screen) into a photovoltaic solar cell. Unlike other "transparent" solar cells that we've reported on in the past, this one really is transparent, as you can see in the photos throughout this story. According to Richard Lunt, who led the research at the time, the team was confident the transparent solar panels can be efficiently deployed in a wide range of settings, from "tall buildings with lots of windows or any kind of mobile device that demands high aesthetic quality like a phone or e-reader."



Now Ubiquitous Energy, an MIT startup we first reported on in 2013, is getting closer to bringing its transparent solar panels to market. Lunt cofounded the company and remains assistant professor of chemical engineering and materials science at Michigan State University. Essentially, what they're doing is instead of shrinking the components, they're changing the way the cell absorbs light. The cell selectively harvests the part of the solar spectrum we can't see with our eye, while letting regular visible light pass through.

Scientifically, a transparent solar panel is something of an oxymoron. Solar cells, specifically the photovoltaic kind, make

energy by absorbing photons (sunlight) and converting them into electrons (electricity). If a material is transparent, however, by definition it means that all of the light passes through the medium to strike the back of your eye. This is why previous transparent solar cells have actually only been partially transparent — and, to add insult to injury, they uScientifically, a transparent solar panel is something of an oxymoron.

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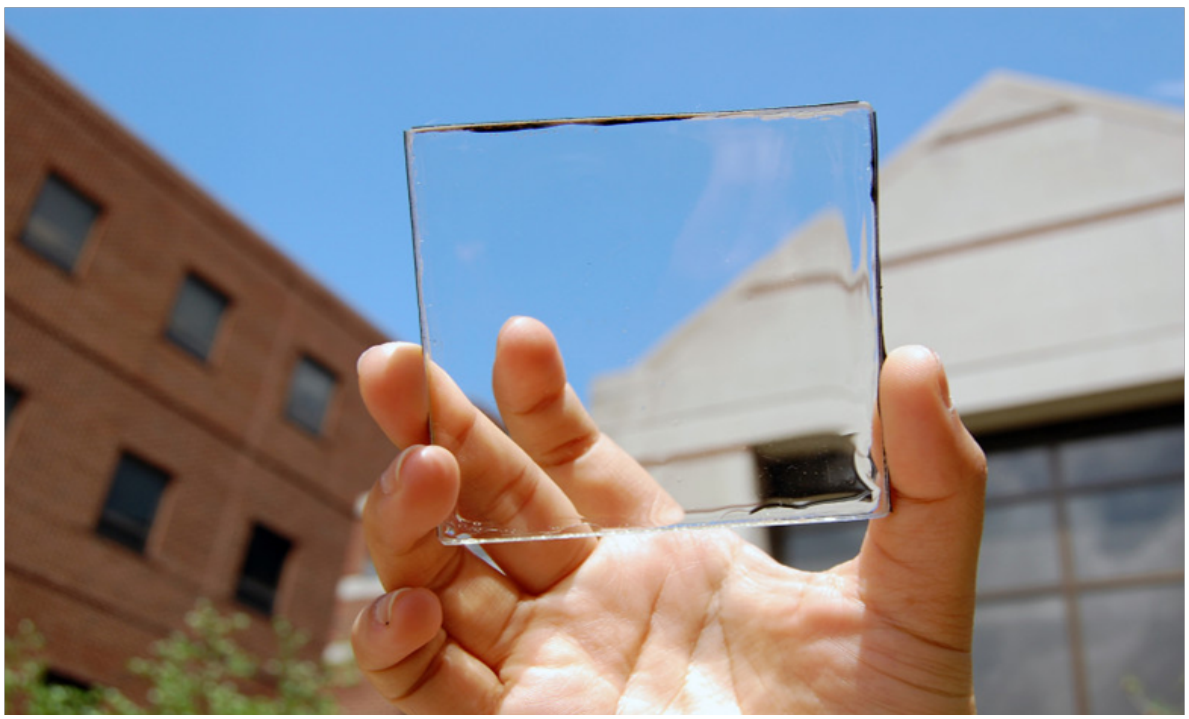
To get around this limitation, the Michigan State researchers use a slightly different technique for gathering sunlight. Instead of trying to create a transparent photovoltaic cell (which is nigh impossible), they use a transparent luminescent solar concentrator(TLSC). The TLSC consists of organic salts that absorb specific non-visible wavelengths of ultraviolet and infrared light, which they then luminesce (glow) as another wavelength of infrared light (also non-visible). This emitted infrared light is guided to the edge of plastic, where thin strips of conventional photovoltaic solar cell convert it into electricity. [Research paper: DOI: 10.1002/adom.201400103 – "Near-Infrared Harvesting Transparent Luminescent Solar Concentrators"]

If you look closely, you can see a couple of black strips along the edges of plastic block. Otherwise, though, the active organic material — and thus the bulk of the solar panel — is highly transparent. (Read: Solar singlet fission bends the laws of physics to boost solar power efficiency by 30%.)

The prototype TLSC currently has an efficiency of around 1%, but they think 10& should be possible once production commences. Non-transparent luminescent concentrators (which bathe the

room in colorful light) max out at around 7%. On their own these aren't huge figures, but on a larger scale — every window in a house or office block — the numbers quickly add up. And while we're probably not talking about a technology that can keep your smartphone or tablet running indefinitely, replacing your device's display with a TLSC could net you a few more minutes or hours of usage on a single battery charge.

"It opens a lot of area to deploy solar energy in a non-intrusive way," Lunt said in an interview with Michigan State's Today blog. "It can be used on tall buildings with lots of windows or any kind of mobile device that demands high aesthetic quality like a phone or e-reader. Ultimately we want to make solar harvesting surfaces that you do not even know are there." The researchers — and Ubiquitous Energy — are confident that the technology can be scaled all the way from large industrial and commercial applications, down to consumer devices, while remaining affordable. So far, one of the larger barriers to large-scale adoption of solar power is the intrusive and ugly nature of solar panels — obviously, if we can produce large amounts of solar power from sheets of glass and plastic that look like normal sheets of glass and plastic, then that would be incredible



- VIJAY .S
III YEAR ICE

MORNING ROUTINE

– BY BENJAMIN HARDY

There are certain high-performance habits that ensure you'll operate at a 10x higher level than if you simply just get to work.

Success is not about how many hours you put it, but the quality of those hours.

In the book, *The 7 Habits of Highly Effective People*, Stephen Covey explains the importance of "sharpening the saw."

Most people go throughout their days as a dull saw, putting more and more time in but getting little back from that time.

It's really not about how much you work.

It's not about how much effort you put it in.

It's about the quality and precision of your efforts.

For example, there are millions of blog posts written every single day. But 99.99% of those blog posts will be read by less than 10 people. On the flip-side, some blog posts are read by millions of people.

Most people operate throughout their day putting lots of time and energy in. But they aren't actually getting better at what they do.

In the book, *Turning Pro*, Steven Pressfield said something brilliant. He said, "Addictions embody repetition without progress. They produce incapacity as a payoff."

Most people's days embody repetition without progress.

Every day they live, but they aren't actually getting better. Their future is a repetitious reinforcement of the past.

But there's another problem in most people's days beyond repetition without progress, and that is that most people's days are quite aimless.

They aren't being guided by a higher power—or by the

highest power within themselves—to do the right things in a powerful way with their time.

In other words, most people reactively respond to the demands of their day. The urgency of everything takes over and it's not apparent that their daily efforts really moved the needle. It's not apparent that their efforts really made a difference.

10-Minute Morning Routine

There are many applications to morning routines. However, there is one thing that is essential to a morning routine to ensure you spend your time on the best things, and that your efforts are impactful on those best things.

Said again—your morning routine should ensure you're spending your limited time on the right things. But also, your morning routine should be a process of putting yourself in the right frame of mind to execute at your highest level.

Actually, if you tap into the spiritual and subconscious, you can put yourself into a position where you are executing beyond your highest level on a daily basis. Where your efforts are expanded by a higher power.

It's really simple.

Before you jump into anything else, give yourself some space. Your compulsion will be to get moving on the urgent.

Don't do this.

Give yourself space for the important.

The 80/20 rule is a productivity principle explaining that most of the things you spend your time doing aren't really making an impact.

80% or more of your results come from 20% or less of what you do.

Yet, you continue spending 80% or more of your time on the stuff that doesn't really matter.

Giving yourself space—even 10 minutes—allows you to think clearly about your goals. To think clearly about your priorities. To think clearly about what matters most to you. And to think clearly

about where and what you should be putting your energy into that day.

The purpose of life is to advance forward every single day.

In the book, *The Laws of Lifetime Growth*, Dan Sullivan and Catherine Nomura have 10 amazing laws.

One of those laws is to always make your learning greater than your experience. Here's specifically what they way about that:
"You can have a great deal of experience and be no smarter for all the things you've done, seen, and heard. Experience alone is no guarantee of lifetime growth. But if you regularly transform your experiences into new lessons, you will make each day of your life a source of growth. The smartest people are those who can transform even the smallest events or situations into breakthroughs in thinking and action."

Every day, your life should be improving.

Your decision-making should be improving.

Your skills and intelligence should be improving.

Your ability to prioritize and focus your time on those things which truly matter—there and then—should be improving.

But in order to improve, you need a process for putting yourself in the right place.

How you start something usually determines the direction and quality it will go.

Take 10 minutes before anything else to get yourself in the right place, and to ensure you focus on the right things that day.

Here's a simple outline of how you can do it. But I recommend you develop your own system over time.

- Wake up
- Drink some water (your brain will thank you)
- Go to a quiet or peaceful place
- Say a prayer or do some form

of positive meditation

- If you decide to pray, ask God (or whatever you call the higher power) to inspire you with clarity, discernment, and direction for what you should be focusing on that day
- After your prayer and meditation, pull out your journal and answer a question—Sean Stephensen, the famed speaker and therapist explains that journaling is often more effective when answering a question
- Your journal entry, then, could be you free-writing to the question: What should I be focused on today?
- Here are some other questions you could answer as journal-prompts: Who do I need to show up for today? How can I be most helpful? What needs my attention most? What is currently on my schedule today that I should uncommit to?

Answering these types of questions gives you a little space to open your mind to clarity.

You really don't need that much time.

You can get life-changing and SIMPLE clarity in a few seconds. The problem is, most people don't give themselves those seconds. They rush forward.

Those few seconds will come consistently and daily if you make time for them. But you need to create an environment and a mindSET—your "set" and "setting"—that can create powerful insights.

Once you've nailed down what you should be focused on, the second half of the journaling session and morning routine is about COMMITMENT.

You want to commit to yourself that you will execute. That you will follow-through. That you'll operate at the highest level.

You need to make a definitive decision about how the day will go. When you make a decision the universe conspires to make it happen.

Therefore, your morning routine is about getting clarity for the decisions you should be making, and then truly committing to making those decisions real.

- SHARVIN SHAKESH .P
II YEAR ICE

7 QUESTIONS

If you want to improve, you have to ask yourself the right questions.

Self-reflection is the key to all personal development. People tend to think it's about reading the right self-help book, or attending a Tony Robbins seminar, but the truth is, personal development can happen in any moment, anytime, anywhere.

All you have to do is ask yourself the right questions, to get to the root of what's holding you back.

Self-reflection is always top-of-mind for me. I constantly try to look back and audit how things are going, what's working, what isn't—and most importantly, what I need to improve upon next in order to continue growing. Here are some of questions I'd suggest as prompts to get you thinking about how you can continue to improve as well:

1. "What was I doing a year ago?"

A fun exercise that always helps keep things in perspective is to question what you were doing a year ago. A year ago, I was still living in Chicago. I had just left my 9–5 job and was very unsure of my future. Today, I live in Los Angeles and spend my days working with incredibly intelligent CEOs and highly successful serial entrepreneurs through my agency, Digital Press.

Looking back a single year reminds me that I have so much to be thankful for.

2. "Do I enjoy how I'm spending my time?"

If you're not enjoying your day to day, no amount of money or external rewards will make you feel more fulfilled.

As the year comes to a close, question what really makes you feel alive and what feels like a burden. Then, question how you can remove those burdens in the months to come.

3. "Who do I spend the most time with?"

I am such a firm believer that you are a direct reflection of the 5 people you spend the most time with.

Ask yourself if you're spending time with true friends, people who enrich your life, or casual friends, people always asking for more and giving you less.

Your friends should be people who inspire you to become a better version of yourself.

4. "How is my money being spent?"

I see money as fuel. It's what powers your airplane and allows you to do the things you want to do in life.

A lot of people forget that there are two ways to make more money. One is to work harder and earn more. The other is to spend less. (Consumerism tends to encourage us against the latter.)

Do a quick audit of your spending habits, and see if you can get some of those impulse purchases under control.

5. "What do I want to learn next?"

I find most people reach a plateau as soon as they stop being curious, and instead fixate on doing things purely for financial gain—or the approval of others.

But curiosity never leads you astray.

Ask yourself what you want to learn next, what will make you grow beyond wherever you're at currently, and then make decisions that allow you to nurture that curiosity. It will only lead to good things.

6. "How are my 5 buckets being filled?"

Each of us has 5 buckets which we fill with our time.

Career:

Fulfillment:

Community:

Personal health:

Intimate relationships:

It's worth taking time to question (on a regular basis) how each of these 5 buckets are being filled. Sometimes, you'll find you are spending far too much time being social and too little time working toward a project or a goal. Or sometimes, you'll find you haven't spoken to your family in months because you've been so busy.

Audit how your time is being spent, so that you can keep those 5 buckets as balanced as possible.

7. "How can I be more helpful—to those around me, and to myself?"

It's taken me a long time to learn that if you can't spend all your time trying to make everyone around you happy.

You have to prioritize keeping yourself happy too.

Which is why it's worth questioning both, simultaneously.

What can you do to be more helpful to those around you? How can you be more encouraging, more patient? And at the same time, how can you do those same things toward yourself?

Personal development is an ongoing practice. It's not a destination. It's not something you do once and then you're a "perfect person" for the rest of your life.

Personal development is your ability to continuously ask yourself these questions on a daily basis, and slowly improve over time.

Like water over rocks, who you are is sculpted over years and years

"Growth is actually contagious, so if you want to reach your goals, you've got to get around people who are going in the same direction you want to be going, and you will catch the success."

- AKASHSAMI .R
II YEAR ICE

Airport Surveillance Radar (ASR)

Do you know about Airport Radar System or Airport Surveillance Radar (ASR), types of radar system, display systems, how it works, etc. Let us study through this article.

Airport Surveillance Radar (ASR)

It is an integrated primary and secondary radar system that has been deployed at terminal air traffic control sites. ASR is also known as Terminal Area Radar (TAR). Basically, it is a radar system used at airports to detect and display the position of aircraft in the terminal area, the airspace around the airports. Let us tell you that the primary radar consists of a large rotating parabolic antenna dish that sweeps a vertical fan-shaped beam of microwaves around the airspace surrounding the airport. The position of the aircraft is detected with the help of microwaves reflected back to the antenna from the surface of the aircraft. The second surveillance radar has a second rotating antenna which is mounted on the primary antenna and interrogates the transponders of the aircraft, which transmits a radio signal back containing the aircraft's identification and altitude. This is displayed on the screen of the radar next to the return from the primary radar.

RADAR word stands for Radio Detection and Ranging. Do you know that pilots can't see where they are going, so they use the technique radar to help them? This system sends and receives radio waves.

How Radar works?

The radar includes Antenna, Duplexer, Transmitter, Phase-Lock Loop (PLL), Receiver and Processing. The radio waves used by Radar are produced by equipment known as magnetron. Radio waves are similar to light waves and they travel at the same speed but their waves are much longer and have much lower frequencies. No doubt both light waves and radio waves are a part of electromagnetic spectrum that is they are made up of fluctuating patterns of electrical and magnetic energy coming through the air.

When radio waves are generated, an antenna, working as a transmitter hurls them into the air in front of it. The antenna doubles up as a radar receiver as well as a transmitter. It also transmits radio waves for a few thousandths of a second, and then it listens the reflections for up to several seconds before transmitting again. Any radio wave that is reflected picked up by the antenna and are directed into a piece of electronic equipment that processes and displays them in a meaningful form on a television like screen which is watched all the time by a human operator. Also, the receiving equipment filters out useless reflections from the ground, buildings and so on. It displays only significant reflections on the screen itself. Do you know that by using radar, an operator can see any nearby ships or planes like where they are, how quickly they are travelling etc. One more important equipment is duplexer which makes the antenna swap back and forth between transmitter and a receiver. While the antenna is transmitting, it cannot receive and vice versa.

Applications of Radar

1. Military applications: In air defense it is used for target detection, target recognition and directing the weapon to the tracked targets, to guide the weapon in the missile system and to identify enemy locations in the map.

2. Air Traffic Control: to control air traffic near airports. Also, the Air Surveillance Radar is used to detect and display the position of the aircraft in the airport terminals, by using Precision Approach Radar it guide the aircraft to land in bad weather and to scan the surface of airport for aircraft and ground vehicle positions.

3. Remote Sensing: For observing weather or observing planetary positions and monitoring sea ice to ensure smooth route for ships.

4. Ground Traffic Control: Radar technique is used by traffic police also to determine vehicle speed, controlling the movement of vehicles by giving warnings about the presence of other vehicles or any type of obstacles behind them.

5. Space: For safe landing on moon to guide the space vehicle, to observe the planetary systems, to detect and track satellites and to monitor the meteors.

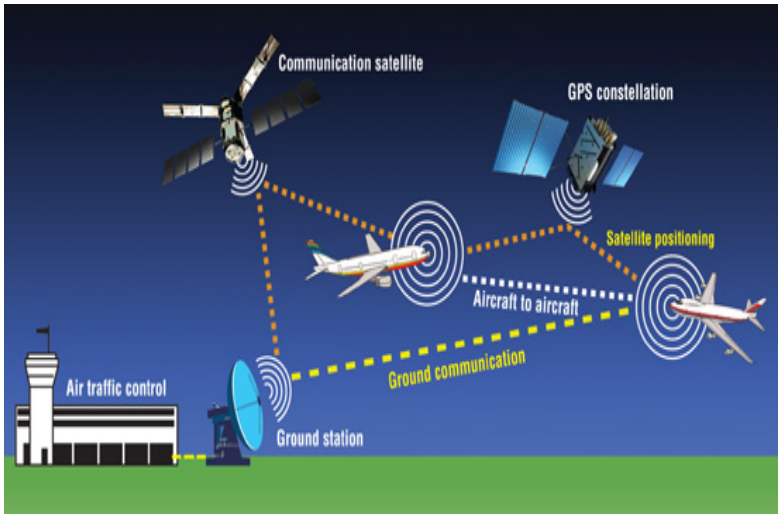
Can radar waves be bypassed?

The technique to avoid radar waves or to bypass the waves of radar is called stealth technology. Its main goal is to make an airplane invisible to radar. It creates invisibility by two different methods:

1. It depends upon the shape of the airplane. It is shaped like that any radar signals if reflects are reflected away from the equipment of the radar.

2. The airplanes can be covered in materials that absorbs radar signals.

The conventional shape of the aircraft is round and in this some of the radar signal gets reflected back. On the other hand, a stealth aircraft is made up of completely flat surface and with very sharp edges. So, when a radar signal hits a stealth plane, the signal reflects away at an angle. Also, surface of the aircraft is made like that they absorb the energy of radar. So, it is said that a stealth aircraft can have a radar signature of a small bird rather than an airplane.



- MAHALAKSHMI .S .P
II YEAR ICE

APTI PREPZ

1.A 'cow' is to a 'calf' as 'goat' is to

(a) puppy (b) kid
(c) lamp (d) colt

2.'Duma' is related to "Russia" in the same way as 'shora' is related to

(a) Malaysia (b)Afghanistan
(c) france (d) germany

3.'Konkani' is related to ' goa' in the same way as 'dogri' is related to

(a) Madhya Pradesh(
(b) odissa
(c) Jammu Kashmir
(d) Gujarat

4.'Pitch' is related to 'cricket' , in the same way as 'arena' is related to

(a) tennis
(b) gymnastic
(c) badminaton
(d) wrestling

5.Choose the option that expresses the same relationship as the following tobacco cancer

(a)milk:food
(b)bud:flower
(c) soil:erosion
(d)mosquito:malaria

6.'Cyclone' is related to 'anticyclone' in the same way as 'flood' is related to

(a)devastatio (b)havoc
(c) drought (d)river

7.'Doctor' is related to'patient' in the same way as 'lawyer' is related to

(a) customer
(b)client
(c)criminal
(d)magisterate

8.As the 'atom' is related to 'molecule' in the same way as 'cell' is related to

(a)matter
(b)nucleus
(c) organism
(d)battery

9.As ' bald' is related to ' blond', in the same way,'barren' is related to

(a)vegetation
(b)farm
(c)fertile
(d)inhibited

10.'Flower' is related to 'petal', in the same way as 'book' is related to

(a)pages (b)content
(c)author (d)library

11) Maharashtra : India :: Texas: ?

(a)Mexico (b)Canada
(c) Brazil (d)USA

12) Bow : Arrow :: Pistol : ?

(a)Bullet (b)Gun
(c)shoot (d)Rifle

13) Cobbler : leather :: Carpenter : ?

a) Furniture (b) Wood
(c) Hammer (d)Chair

14)Potato : Carrot :: Radish : ?

(a)Tomato (b) Spinach
(c)Seasame (d) Groundnut

15) Hong Kong : China :: Vatican : ?

(a) France (b) Mexico
(c) China (d) Rome

16) Magazine : Editor :: Drama : ?

(a) Director (b) Player
(c) Manager (d) Actor

17) King : Throne :: Rider : ?

(a) Horse (b) Chair
(c) Seat (d) Saddle

18) Money : Misappropriation :: Writing : ?

(a) Deception (b) Mistake
(c) Plagiarism (d) Theft

19) Hive : Bee :: Eyrie : ?

(a) Parrot (b) Sparrow
(c) Eagle (d) Pigeon

20) Pleasure : Sorrow :: Right : ?

(a) Wrong (b) Wonderful
(c) Sure (d) Happy

21) Nightingale : Warble :: Frog : ?

(a) Yell (b) cackle
(c) Squeak (d) Croak

22) Sitar : Guitar :: Tanpura : ?

(a) Trumpet (b) violin
(c) Harmonium
(d) Mridanga

23) MODERATE : INTENSIFY :: NOMINAL : ?

(a) MEMORIAL
(b) EXPENSIVE
(c) DISTANCE
(d) CHAOS

24) Oxygen : Burn :: Carbon di-oxide : ?

(a) Isolate (b) foam
(c) Extinguishes
(d) None of these

25) Smoke : Pollution :: War : ?

(a) Peace (b) Victory

(c) Treaty

(d) Destruction

- KIRTHIKA .V
IIYEAR ICE

ATTRACTIVE PRIZES FOR THE TOP THREE SCORERS OF APTI !!!

Send your response to **iceprteam@gmail.com**

FIRST COME FIRST SERVE*

STUDENT CORNER

SHARE YOUR EXPERIENCE

GREETINGS! The company I attended was Sri energy Valves. (Manufacturing of valves for oil and gas extraction). It's the best place to develop our skills. The interview is of 3 rounds. 1st round was Mechanical,verbal and Aptitude questions. 2nd was GD and the final one was Management Interview. The working place was Awesome. It's a challenging environment to prove ourselves.

Interview questions

1. Why ICE?
2. How is ICE related to this company?
3. Family Details.
4. How long will you work?
5. For mech Dept it was about technical questions .
6. Basic questions about yourself.
7. Any questions?

And the result was announced on the same day. The process took from 9-5 pm. Food wasn't good.

- SWETHA
IV YEAR ICE

BRIEF ANSWERS TO THE BIG QUESTIONS

-STEPHEN HAWKING

Intellectually stimulating, intensely argued and filled with his characteristic humour, Brief Answers To The Big Questions is the final thoughts of the prominent theoretical physicist who spent his entire life understanding the stars. This is the book every person anxious about the humanity's future should read. Stephen Hawking's extraordinary creativity as a theoretical physicist and his years of struggle with the horribly tiring motor neuron disease, inspired millions to strengthen their bonds with science and to win over their physical challenges. Contributing to the striking set of circumstances surrounding his life, Hawking was born exactly 300 years after Galileo's death and died on Einstein's birthday.

As an added credit, the book features a foreword from Oscar winning actor Eddie Redmayne, who played the role of Hawking in the movie, "The Theory Of Everything", an introduction by the Noble prize winning physicist and Hawking's friend, Kip Thorne and a deeply moving afterword from Hawking's daughter Lucy.

In this brilliant work, he has left us with the biggest questions regarding the future of mankind. Before starting to explain the answers for the questions, he gives the justification why one should ask the big questions. This book features the most serious issues of mankind. The book includes ten questions, starting with "Is there a god?" and ending with the inspirational "How do we shape the future?". Between these two, Hawking discusses on the existence of God, on the origin of universe and of life, on time travel, on what's inside a black hole, on whether there is intelligent life elsewhere in the universe, on whether we can predict the future, on the real and on the imagined threats from aliens and artificial intelligence and so on.

The first three chapters are very much accessible even by the people who doesn't have much idea about science, however an ambitious reader can continue with a few more. In order to move on with the rest, it is necessary for the readers to have a deeper interest in physics.

- NISHA FRANCY S
II YEAR ICE

ACHIEVE YOUR GOAL IN 3 STEPS

When it comes to people giving advice about how to achieve a goal, you've probably heard some variation of the catch phrase "see it, believe it, achieve it" and then rolled your eyes without giving it another thought. Many people will say these are merely words, and cannot help you, I wouldn't disagree with them. See, believe, and achieve are only words, but when you take a second to actually think of how you can apply them in your life, and in a sequence to go after your goal, I believe, they are essential to achieving your definition of success.

See It.

Being able to visualise your goal is vital, as I think you need to put yourself in the situation (in your mind at least) to get an understanding of how your goal looks, feels, and will actually mean once you achieve it. Why wait until you're successful before you actually get a mental picture of what it will be like. Create, sculpt, and see yourself accomplishing what you've set out to achieve every day, as seeing yourself in the scenario you want to be in will help prepare you for when it happens, and also help you believe you can achieve it.

Believe It.

Have you ever thought what the difference is between people who continually achieve their big goals, to others who struggle to accomplish any goal they set? Self-belief is a powerful thing; it can increase your confidence, drive, and energy levels to help you go after your goal. When you start to believe in yourself and what you are setting out to achieve, your confidence will grow. When your confidence grows, your ability to see the end result you're looking for becomes clearer, your belief that you can achieve multiplies, and you will become excited for what's ahead.

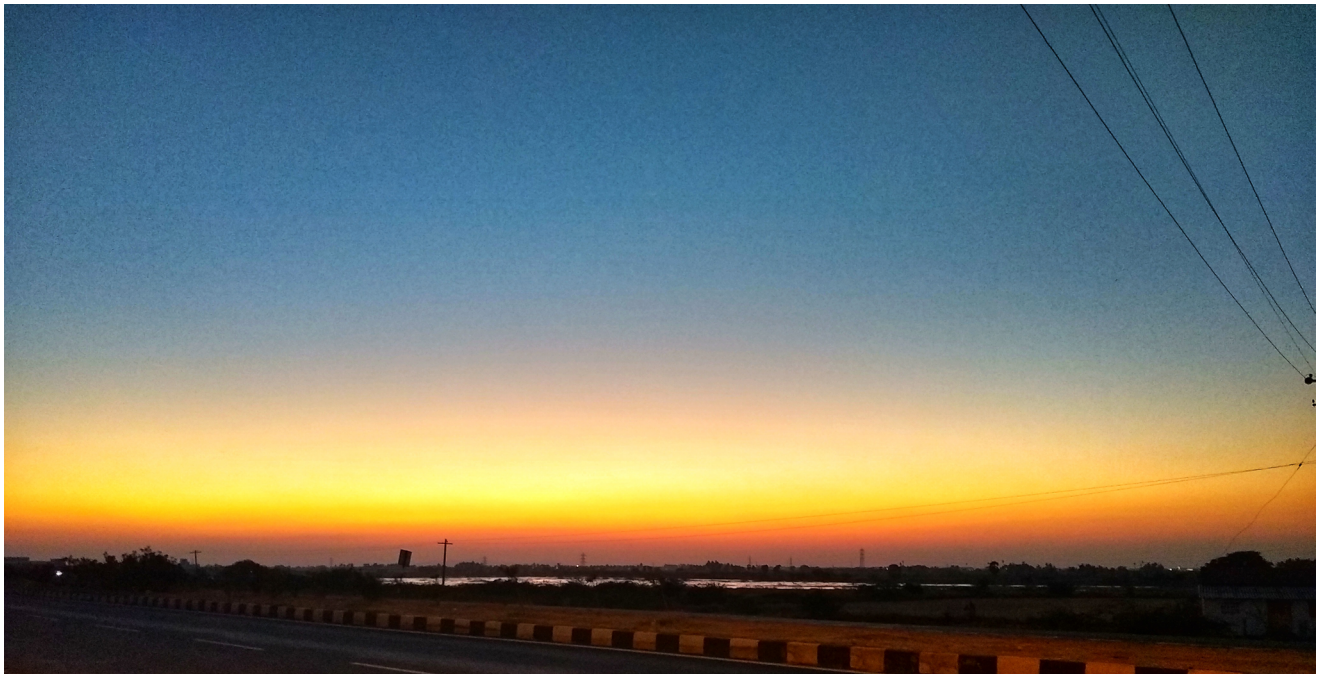
Achieve It.

Seeing your goal, then believing you can actually achieve it are the easy parts, it's now time to do the necessary work in order to achieve your goal. Gaining the knowledge of how you will succeed, or if you are attempting something no one ever has before, then constantly trying new ways to gain knowledge is vital for moving towards your objective. Although having plenty of knowledge may be great when chatting to people at a dinner party, unfortunately knowledge alone will not achieve your goal for you; you have to take action. Consistent hard work, day in day out using your knowledge, new found confidence, and self belief will move you forwards, edging you closer to your goal.

- SURYA .S
II YEAR ICE

SHIVA SHANKAR
I YEAR ICE

HARIHARAN .R .G
III YEAR ICE
(ART)



HARIHARAN .R .G
III YEAR ICE

MANOJ KUMAR .G
III YEAR ICE

MANOJ KUMAR .G
III YEAR ICE

SHARVIN SHAKESH .P
II YEAR ICE

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