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THE MET LEAGUE OF COLLEGES

MET
AS SHARP AS YOU CAN GET

POLYTECHNIC

*"The Science of
Today is
The Technology
for Tomorrow"***Wishing you
A Happy
Science Day**

Inside

- Students Speaks
- Faculty Speaks
- Workshops
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- Expert Lectures
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From Principal's Desk...

Year 2020 is going to begin with students embracing the challenges of learning. We saw staff embracing their roles too, with new staff and families learning how our institute operates. As principal I have the expectation that our staff are focussed not only on the best academic outcomes for every learner but also on supporting their growth as independent, respectful and resilient young people. Through parents, caregivers and staff working together students are achieving this! On behalf of MET Polytechnic Institute, We believe that "For the overall development of well cultured society role of student , parents and teachers is very important."

Creating better human beings' is our motto and we can do that when we are able to mould our students to be good human beings with values which are embedded for life. We aim to provide an overall development that nurtures them towards becoming strong and focussed human beings. We are organising various camps/ functions in the Institutions such as career counselling, awareness, job placement etc. and arranging various industrial visits for students for effective technical learning. Soft skills and educational skills is what the institution seeks to provide every student at the campus itself.

The student love extra curricular technical events and they are such an important part of our Institute. It takes a community effort for these things to take place and, in no particular order, here are the people who really do "Make it Happen".

Many thanks to those parents who have helped out with our activities. We could not do it without you!

The main focus of the Institution is to empower students with sound knowledge, wisdom, experience and training both at the academic level of Engineering and in the highly competitive global industrial market. The infrastructure facilities and state-of-the-art equipments combined with a galaxy of competent, talented and dedicated faculty contribute to an enjoyable and an easy learning experience.

We wish the best for all our students, and the members of the institution who reiterate their aims at providing the best in academic and extra-curricular fields.

Once again, we wish all our students and faculty a successful and rewarding career.

- **Dr. R. S. Narkhede**, Principal, IOT-P
Mob.: 07507776781

Mumbai Educational Trust

Our Vision

To shape professionals, to conquer the present and future challenges to the socio-economic fabric of our society, by institutionalizing search, development, research and dissemination of relevant knowledge through structured learning systems

Our Mission

To evolve, develop and deliver dynamic learning systems to equip professionals with conscience and commitment to excellence and courage to face business challenges.

Our Inspiration

Mahatma Jyotiba Phule
(1827 - 1890)Shrimati Savitribai Phule
(1831 - 1897)

विद्येविना मती गेली । मतीविना नीती गेली ।
नीतीविना गती गेली । गतीविना वित्त गेले ॥
वित्ताविना शुद्ध खचले ।

इतके अनर्थ एका अविद्येने केले ॥

Lack of knowledge leads to indiscretion; Indiscretion leads to lack of ethics. Lack of ethics leads to absence of direction and momentum; Absence of direction and momentum results in bankruptcy. Such is the HAVOC caused by the lack of knowledge.

- Mahatma Jyotiba Phule

Our Faith

न चौर हार्यम् नव राज हार्यम् ।
न भातृभाज्यम् नच भारकारी ॥
व्यये कृते वर्धते एव नित्यम् ।
विद्याधनं सर्वधन प्रधानम् ॥

Knowledge can neither be stolen by a thief, nor snatched by a king. It is indivisible unlike ancestral property, it never burden the bearer, it multiplies manifold when offered to others. Knowledge is the supreme form of wealth.

Student Speaks

Studies on Organic Photovoltaic Solar Cells for Energy Conversion

Abstract:-

During the last years the performance of organic solar cells has been significantly improved. Further improvements are necessary for the further development of organic photovoltaic cells. This article reviews the basic working principle, its commercialization and fate of organic solar cell. The importance of high power conversion efficiency models for organic solar cells are discussed. Assuming state of the art materials and device architectures several models predict power conversion efficiencies in the range of 10% - 15%. This article also include the future development in the field of nano-technology.

Keywords: - Organic solar cell, Bulk Heterojunction solar cell, Power conversion efficiency, nanoscale.

1.1 Introduction:-

Today we are indeed aware that the fossil fuels such as natural gas, coal, oil are finite resources available for finite time. Excessive worldwide usage has also introduced conflicts and modern concept such as global warming having consequences of depleting ozone layer. Total energy demand is terribly increasing day by days.

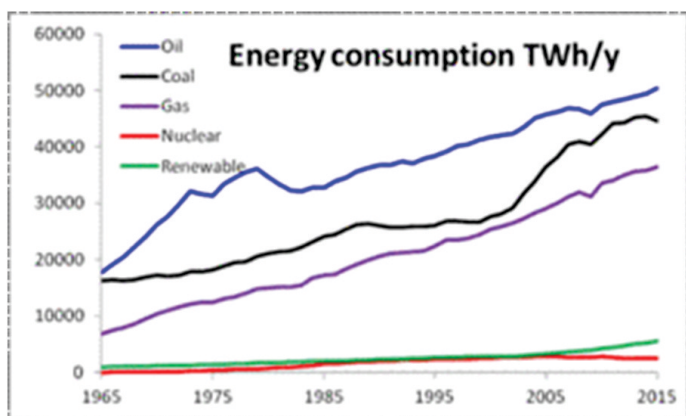


Fig 1. Global statistical utilization scenario of energy sources

An organic solar cell is a type of photovoltaic that uses organic electronics, a branch that deals with conductive organic polymers or small organic molecules, for light absorption and charge transport to produce electricity from sunlight by the photo-voltaic effect. The organic solar cells are cheap, resulting in low production costs to form large volumes. Due to the high optical absorption coefficient (α) of organic molecules large amount of sunlight can be absorbed very easily and efficiently.

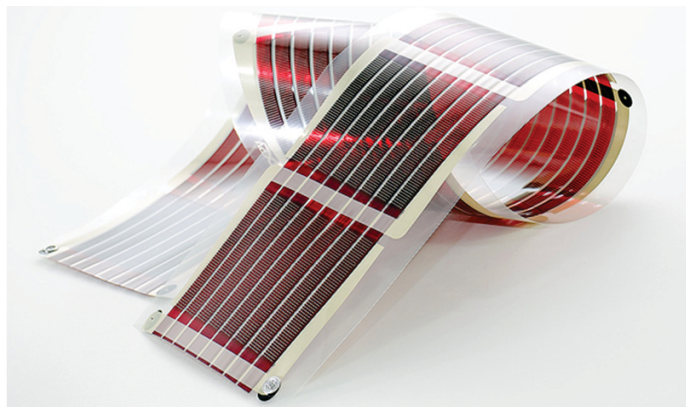


Fig 2. Typical structure of flexible organic solar cell

Compared to conventional silicon solar cells organic solar cells are lighter in weight, easily disposable, convenient to fabricate, potentially transparent, flexible, lower manufacturing cost, etc.

By considering the above merits the organic solar cells finds wide applications than conventional ones. This organic photovoltaic can be installed on your windows or rooftops as shown in Fig. 3.



Fig. 3. A view of transparent organic solar cell

1.2 Case Study:-

Fig. 4. Shows the transparent solar organic solar cell designed and manufactured by German based company called BASF. This firm makes their interest in producing creative organic solar PV and has creates several researches in the same field.



Fig. 4. BASF OPV Structure

This firm has successfully manufactured transparent organic bulk hetero junction solar cells and are trying to elaborate this activity in future.

1.3 Organic Photovoltaic:-

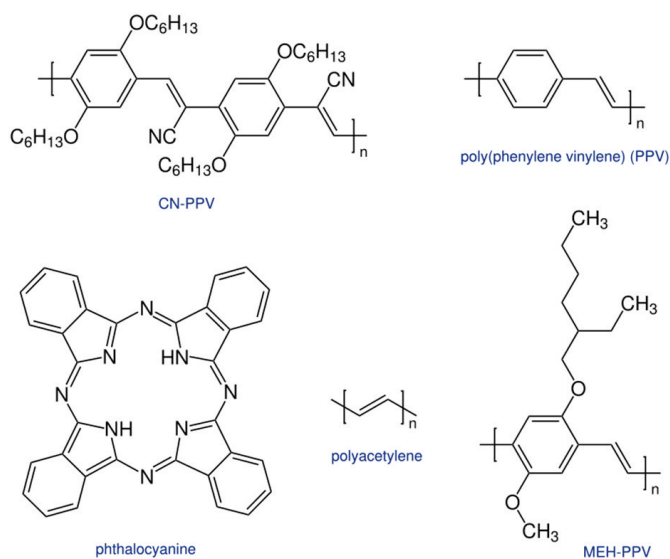


Fig. 5. Organic photovoltaic structure

A photovoltaic cell is just like the p-n junction diode that converts incident photon (light energy) directly into direct current (DC) electricity. Depending on the band gap of the light-absorbing

material, photovoltaic cells can also convert low-energy, infrared (IR) or high-energy, ultraviolet (UV) photons into DC electricity.

The actual structure of organic photovoltaic is made up of two materials that are Fullerene (Nanomaterial Carbon) and the another material used is P3HT Polythiophene which is basically a polymer.

A common characteristic of both the small molecules (fullerene) and polymers (P3HT), (Fig 5) used as the light-absorbing material in photovoltaic is that they all have large conjugated systems. A conjugated system is formed where carbon atoms covalently bond with alternating single and double bonds. These hydrocarbons' electrons pz orbital delocalize and form a delocalized bonding π orbital with a π^* ant bonding orbital. The delocalized π orbital is the highest occupied molecular orbital (HOMO), and the π^* orbital is the lowest unoccupied molecular orbital (LUMO). In organic semiconductor physics, the HOMO takes the role of the valence band while the LUMO serves as the conduction band. The energy separation between the HOMO and LUMO energy levels is considered the band gap of organic electronic materials and is typically in the range of 1 eV to 2.3 eV.

All light with energy greater than the band gap of the material can be absorbed, though there is a trade-off to reducing the band gap as photons absorbed with energies higher than the band gap will thermally give off its excess energy, resulting in lower voltages and power conversion efficiencies. When these materials absorb a photon, an excited state is created and confined to a molecule or a region of a polymer chain. The excited state can be regarded as an exciton, or an electron-hole pair bound together by electrostatic interactions. In photovoltaic cells, excitons are broken up into free electron-hole pairs by effective fields. The effective fields are set up by creating a Heterojunction between two dissimilar materials. In organic photovoltaic's, effective fields break up excitons by causing the electron to fall from the conduction band of the absorber to the conduction band of the acceptor molecule. It is necessary that the acceptor material has a conduction band edge that is lower than that of the absorber material.

1.3.1. Bulk Heterojunction solar cell

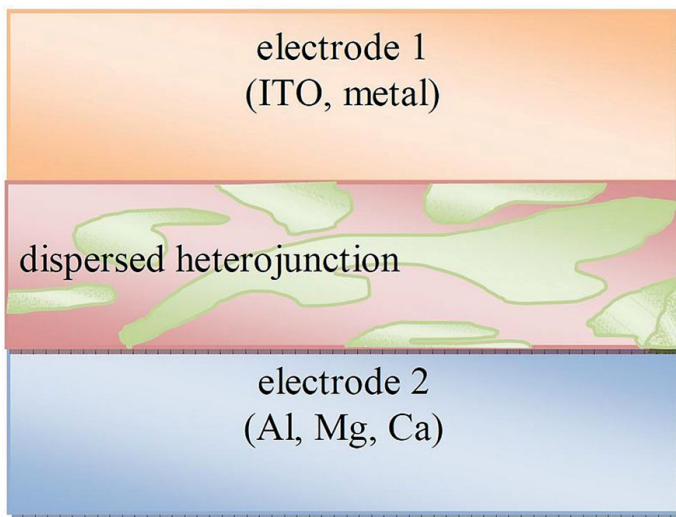


Fig.6. Structure of heterojunction solar cell

Bulk heterojunction have an absorption layer consisting of a nanoscale blend of donor and acceptor materials. Bulk heterojunctions are most commonly created by forming a solution containing the two components, casting (e.g. drop casting and spin coating) and then allowing the two phases to separate, usually with the assistance of an annealing step. The two components will self-assemble into an interpenetrating network connecting the two electrodes. They are normally composed of a conjugated molecule based donor and fullerene

based acceptor. The non-structural morphology of bulk heterojunctions tends to be difficult to control, but is critical to photovoltaic performance.

After the capture of a photon, electrons move to the acceptor domains, then are carried through the device and collected by one electrode, and holes move in the opposite direction and collected at the other side. If the dispersion of the two materials is too fine, it will result in poor charge transfer through the layer.

Most bulk Heterojunction cells use two components, although three-component cells have been explored. The third component, a secondary p-type solar polymer, acts to absorb light in a different region of the solar spectrum. This in theory increases the amount of absorbed light. These ternary cells operate through one of three distinct mechanisms: charge transfer, energy transfer or parallel-linkage.

In charge transfer, both donors contribute directly to the generation of free charge carriers. Holes pass through only one donor domain before collection at the anode. In energy transfer, only one donor contributes to the production of holes. The second donor acts solely to absorb light, transferring extra energy to the first donor material. In parallel linkage, both donors produce excitons independently, which then migrate to their respective donor/acceptor interfaces and dissociate.

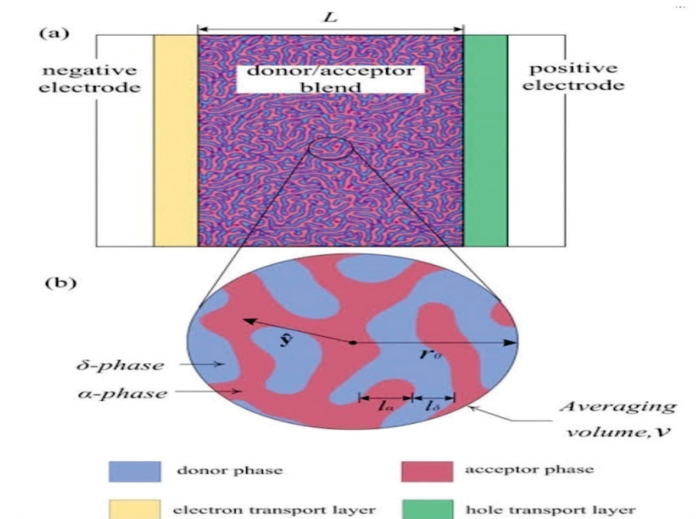


Fig. No. 7 Internal structure of OPV

This is what actually is inside organic solar cells. It is called as bulk heterojunction solar cells. While making organic solar cells polymer is taken in its semi-solid form and carbon is then mixed in it, so there becomes a semisolid mixture as an ink of fountain pen. This ink is made settled for a considerable amount of time. As the ink settles it exactly looks like Fig. No.7. So this is how the bulk heterojunction is made practically.

1.4 Power Conversion Efficiency :-(η)

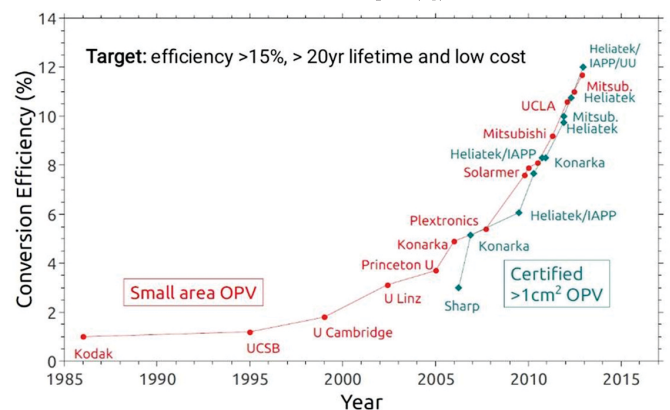


Fig. 8. Power Conversion efficiency scenario

One of the major issues surrounding polymer solar cells is the low Power Conversion Efficiency (PCE) of fabricated cells. In order to be considered commercially viable, PSCs must be able to achieve at least 10–15% efficiency this is already much lower than inorganic PVs. However, due to the low cost of polymer solar cells, 10–15% efficiency is commercially viable.

PCE (η) is proportional to the product of the short-circuit current (ISC), the open circuit voltage (VOC), and the fill factor (FF).

$\eta = \text{Voc} \times \text{Isc} \times \text{Fill factor}$ $\eta = \text{Voc} \times \text{Isc} \times \text{Fill factor}$
Where Pin is the incident solar power. Recent advances in polymer solar cell performance have resulted from compressing the band gap to enhance short-circuit current while lowering the Highest Occupied Molecular Orbital (HOMO) to increase open-circuit voltage. However, PSCs still suffer from low fill factors (typically below 70%). However, as of 2013, researchers have been able to fabricate PSCs with fill factors of over 75%. Scientists have been able to accomplish via an inverted BHJ and by using nonconventional donor / acceptor combinations.

1.5 Commercialization:-

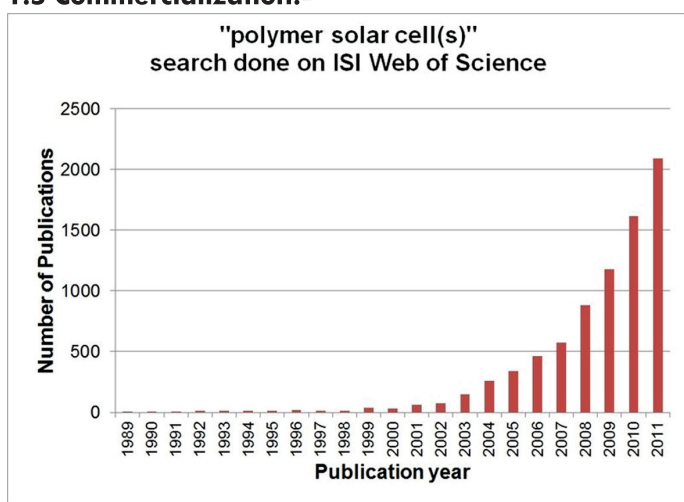


Fig. 9. Research report survey for 22 year

Many MNC's are very much interested in this newly emerging solar technology. Many researchers are lifting lots of efforts in respective field in order to make it more better and efficient. Today the efficiency of organic solar cell is 10%, a way behind silicon solar cells but in progress. By the time many OPV manufacturing companies have been established and they are receiving very good feedback from the market. Many of them have launched their products commercially in market.

1.6 Advantages:-

1. Low weight and flexibility of the PV modules.
2. Semi-transparency.
3. Easy integration into other products.
4. New market opportunities, e.g. wearable PV.
5. Significantly lower manufacturing costs compared to conventional inorganic technologies.
6. Manufacturing of OPV in a continuous process using state of the art printing tools.
7. Short energy payback times and low environmental impact during manufacturing and operations.

Most of the advantages listed above do also apply to solar cells based on vapour-deposited small molecule absorbers. This suggests that OPV does have the potential to be a disruptive technology within the PV market. The bright outlook has initiated a lot of research and development activities and substantial progress has been made in increasing the power conversion efficiency (PCE) of solution processed OPV during the last years.

1.7 Conclusions:-

In summary, bulk-heterojunction organic solar cells represent a promising technology which could be an important player in the future PV-market. Substantial research and development efforts are required to bring the technology to the necessary performance level.

The flexibility offered by organic chemistry to design semiconductors and engineer interfaces to other inorganic or organic materials would offer various opportunities to explore 3rd generation concepts. This advancement in technology hopefully will prove fruitful for green earth and subsequently reduce the green house gases.

1.8 Future Scope:-

The inventions and researches in organic solar cells are really noteworthy due to which the predicted future of organic solar cells is very bright. Many MNC's are interested in investing in such constructive ideas. Tesla is being trying to make the rooftops of solar cells which will be a good source of energy and rigid enough to protect your roof as well. Also as mentioned above the organic solar cells are semitransparent, so efforts are being made to make it entirely transparent due to which it can be installed at your places as a good alternative for your windows. The organic solar cells will going to play an vital role in constructing our better and eco-friendly future.

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Shreyas Sonavani

TYEE



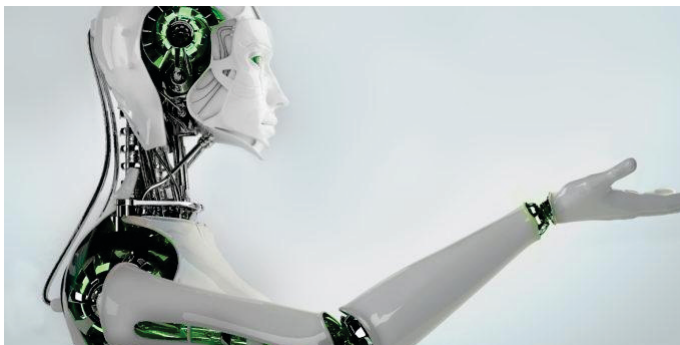
Faculty Speaks

Artificial Intelligence and Employment Opportunities

How Artificial Intelligence and Robotics Can Create More Employment Opportunities

The impact of AI and robotics on employment goes far deeper than just job creation. AI, and subsequently, robotics, are niche technologies that demand an extensive understanding of every associated parameter.

The impact of artificial intelligence and robotics on employment opportunities have always been a topic of much speculation. When it comes to organising and manipulating data, processing complex mathematical problems, and executing tasks in the blink of an eye, AI and robotics are the most preferred choice. As a result, AI has penetrated almost every industry, from construction, transport, and manufacturing to business intelligence, education, and healthcare. It is, therefore, not surprising that many silicon valley figures, including Facebook CEO Mark Zuckerberg, believe that not only can artificial intelligence support and enhance existing jobs, but it can also create new roles.



A report generated by Gartner suggests that by 2020, AI would generate an estimated 2.3 million jobs. This figure was calculated by taking into account the 1.8 million jobs made simpler by automation. However, like any other technology, when it comes to domain skills, AI and robotics also require dedicated training courses. This has spurred the need for artificial intelligence courses, thus preparing professionals for a new wave of change brought about by innovations in robotics and artificial intelligence.

Need of new jobs roles:

The AI and robotics sector never fails to impress people with innovations. Tasks that used to be considered extremely complex until previously have now been rendered simple, thus giving professionals a broader space to focus on other tasks. In addition to this, the proliferation of AI techniques has yet another benefit; as the number of AI and robotics devices increase, so will the need for job roles to support and maintain their functioning.

As a result, there will be a demand for professionals who understand robotics and AI at every stage of the development cycle. This amounts to at least a two-thirds increase in the current job scenario. In a recent study conducted by Capgemini, nearly 80 percent of the 1,000 organisations who implement artificial intelligence have stated that they would be hiring AI and robotics professionals for new job roles.

Need for trained professionals:

The impact of AI and robotics on employment goes far deeper than just job creation. AI, and subsequently, robotics, are niche technologies that demand an extensive understanding of every associated parameter. Consequently, there is a massive demand for performing microtasks like data analyses and virtual imaging, which require a significant level of expertise.

This means that there is an ever-growing market for professionals who can perform these tasks, as evident by the rapid popularity of artificial intelligence courses.

According to industry estimates, the year 2017 faced significant labour shortages in the technology sector. So much so that for 500,00 open developer positions in the U.S alone, there were less than 50,000 computer graduates to satisfy the demand. A survey conducted by Salesforce Research stated that 52 percent of IT recruiters faced a significant skill gap in their organisations. Judging by these trends, in the current era of business improvement that is dominated by AI and robotics, there would be even more demand for skilled professionals. Hence, this is as good a time as any to invest in artificial intelligence courses to fill in the ever-increasing demand for skilled professionals.

Innovative job roles:

In a study conducted by Michael Page on professionals about the impact of AI and robotics in their industry, the majority of survey takers were looking forward to AI generating more innovative and exciting job roles. Interestingly, these professionals were not just limited to the IT industry but were working in the fields of manufacturing, marketing, finance, sales, and accounting. Advances in AI and robotics will enable machines to efficiently and quickly perform more mundane and time-consuming tasks, thus allowing professionals to take up more innovative job roles. Examples of these innovations are already available in the form of driverless cars and automated healthcare assistants, both as a result of advancements in AI and robotics. Propelled by these innovations, industries would hire more highly skilled people to invent, develop, and maintain allied and complementary products.

Training, research, and development:

As with every other technology, AI and robotics will flourish only through innovation. When assessed from a macroscopic viewpoint, the industry is still at a fledgeling stage, and much is yet to be discovered and implemented. This brings to focus the next layer of employment opportunities in AI and robotics, that of research, development, and skill enhancement. Some positions are already in demand by some of the leading tech companies for roles of AI trainers, data scientists and architects, statistical modelling, machine learning, computational intelligence, psychology, mathematics, neuroscience, and linguistics.

As robotics advances to more and more areas of human intelligence and tasks, research and development to better perfect robotic models are very much in demand. Firms who are investing in AI and robotics are always on the lookout for experienced professionals in their R&D department who can perform research and drive innovations in their existing prototypes.

In a nutshell:

The future of most industries is dominated by optimisation of robotics and AI. Workplaces will become more efficient, and the way enterprises conduct their businesses is undoubtedly expected to change for the better. It is, therefore, as perfect a time as any for AI and robotics professionals to anticipate how these technologies will impact more employment opportunities. As opposed to the fear of machines taking over jobs, AI and robotics are instead poised to create new and more exciting job role, thus significantly improving the employment prospects of people in not just IT, but in almost every industry.

Prof . Sunil Jadhav,
 Lecturer, E&TC Engg.



Physical Activity - Important for health and wellbeing

There are so many reasons why regular activity boosts your health. Read to learn what those are and how you can incorporate exercise into your day.

We know that staying active is one of the best ways to keep our bodies healthy. But did you know it can also improve your overall well-being and quality of life?

Here are just a few of the ways physical activity can help you feel better, look better and live better. Because, why not?

It's a natural mood lifter.

Regular physical activity can relieve stress, anxiety, depression and anger. You know that "feel good sensation" you get after doing something physical? Think of it as a happy pill with no side effects! Most people notice they feel better over time as physical activity becomes a regular part of their lives.

It keeps you physically fit and able.

Without regular activity, your body slowly loses its strength, stamina and ability to function properly. It's like the old saying: you don't stop moving from growing old, you grow old from stopping moving. Exercise increases muscle strength, which in turn increases your ability to do other physical activities.

It helps keep the doctor away.

Stand up when you eat your apple a day! Too much sitting and other sedentary activities can increase your risk of heart disease and stroke. One study showed that adults who watch more than 4 hours of television a day had an 80% higher risk of death from cardiovascular disease.

Being more active can help you:

- lower your blood pressure
- boost your levels of good cholesterol
- improve blood flow (circulation)
- keep your weight under control
- prevent bone loss that can lead to osteoporosis

All of this can add up to fewer medical expenses, interventions and medications later in life!

It can help you live longer.

It's true, 70 is the new 60... but only if you're healthy. People who are physically active and at a healthy weight live about seven years longer than those who are not active and are obese. And the important part is that those extra years are generally healthier years! Staying active helps delay or prevent chronic illnesses and diseases associated with aging. So active adults maintain their quality of life and independence longer as they age.

Here are some other benefits you may get with regular physical activity:

- Helps you quit smoking and stay tobacco-free.
- Boosts your energy level so you can get more done.
- Helps you manage stress and tension.
- Promotes a positive attitude and outlook.
- Helps you fall asleep faster and sleep more soundly.
- Improves your self-image and self-confidence.
- Provides fun ways to spend time with family, friends and pets.
- Helps you spend more time outdoors or in your community.

The American Heart Association recommends at least 150 minutes of moderate-intensity aerobic activity each week. You can knock that out in just 30 minutes a day, 5 days a week. And every minute of moderate to vigorous activity counts toward your goal.

So, this is easy! Just move more, with more intensity, and sit less. You don't have to make big life changes to see the benefits. Just start building more activity into your day, one step at a time.

Prof . Sunil Mandore,
 Lecturer, Mechanical Engg.

Four Day Work - An Increased productivity

Microsoft experimented with a 4-day work week in its Japan office, and productivity jumped by 40%

The quandary goes back decades: how to help employees find a better work-life balance, while also making sure that everything that needs doing at your company gets done. Recent news out of Microsoft Japan had some people wondering if the road to sanity for both employers and workers has finally been discovered: the four-day workweek.

No, not a four-day workweek with split shifts. But a for-everyone four days on, three days off. A "pure" four-day workweek instead of an "overlap" setup, as Robert Pozen, senior lecturer at MIT Sloan School of Management and author of *Extreme Productivity: Boost Your Results, Reduce Your Hours* calls it.

The Microsoft Japan test ran this summer, with employees working four days, having three off, and still collecting their full paycheck. The biggest benefit to the company? Productivity went up 40%.

"Four-day workweeks are appealing because so many professional and managerial workers feel they are working intensely and too long, but it is often unclear how to take control of their time," says Erin L. Kelly, MIT Sloan Distinguished Professor of Work and Organization Studies and co-author of *Overload: How Good Jobs Went Bad and What We Can Do About It*, which will be published in March.

"Many knowledge workers—who are privileged in terms of wages, benefits and interesting work—feel they just have too much to do," Kelly says. "They find it hard to find the time for reflection and recovery that will allow them to do their best work as well as have more sustainable lives, protecting their health and caring for their families and communities."

Though the reason the four-day office gives employees a boost may seem simple—more time off is delightful, right?—there's much more to it. "The four-day work week then becomes a prompt that encourages employees and managers to look at how they are working, to try to find smarter ways to get the job done, while also reclaiming some time for their own goals."

But there are several road blocks to consider before U.S. companies should consider making the change. Switching to a four-day schedule isn't easy and a lot of thought has to go into it before human resources can send out a great news about your hours email.

Phillis Moen, Founding Director, University of Minnesota Advanced Careers Initiative, and the co-author of *Overload* says that U.S. professionals and managers already work more than five days and 40 hours per week, and "always-on accessibility made possible by new communication technologies" hasn't helped. "The strains contemporary American workers experience cannot be relieved by reducing days in the office if workloads and accessibility are not also modulated," she says.

Kelly adds that studies have shown that some employees don't appreciate a shift to a four-day work week. The schedule often requires longer hours on the in-office days, and that may not fit in with their current needs. "Many studies, including my own research, find that a sense of control over your work schedule is valuable and predicts better work-life balance, less stress, and less burnout," she says.

Instead, Kelly adds, consider offering a "variety of schedules and remote work options, coupled with serious conversations about how much work people are being asked to do and brainstorming and support to cut meetings or tasks that are not really critical to the central work." In *Overload*, she and Moen report on an experiment at a Fortune 500 company that did just that and "saw benefits to employees, their families, and the firm."

Another strategy that can help cut down the need for in-office time is to knock out long meetings. (Okay, that's something

every workplace would benefit from.) Pozen says there are three key steps to reducing meeting times.

Preparation. You must have an agenda and send meeting materials out in advance.

Put the kibosh on letting anybody even think about running a PowerPoint presentation. And no droning on. Meetings should be about discussion and debate.

End with a ways to move forward. Everybody should know what was decided and the next steps.

Burnout or not, there are industries where the four-day office just can't work—hospitals pop to mind first—and, for others, a reminder that at least someone needs to hang around to help out customers in need. After all, there's no sense in giving productivity a boost if you lose all your clients.

Prof . N. D. Sonawane,
Lecturer, Electrical Engg.

Workshops

'Student Solar Ambassadors Workshop'

In the face of growing challenges of climate change and rising global temperatures, it's wiser to move towards adopting renewable energy. As part of its Diamond Jubilee celebrations and to commemorate the 150th Birth Anniversary of Rashtrapita Mahatma Gandhi, MET-Institute of Technology-Polytechnic, Bhujbal Knowledge City, Nashik conducted a grand 'Student Solar Ambassadors Workshop' on October 2, 2019

This workshop was graced with the presence of well renowned Senior Scientist Dr. Omprakash Kulkarni as a Chief Guest, Principal of the MET Polytechnic Dr Rajendra Narkhede and Heads of the Various Departments of MET Polytechnic.

The program was started with paying tribute to Rashtrapita Mahatma Gandhi by the hands of Dr Omprakash Kulkarni.

The day-long event scheduled at MET- Bhujbal Knowledge City, Nashik was being organized by Institute of Polytechnic in association with IIT Bombay. Students from Nashik region hugely supported their participation in this activity.



Opening Ceremony - Chief Guest Dr. Omprakash Kulkarni Guiding the Participants.



Successful Completion of the workshop!
Participants lit Solar LED lamps.

'Student Solar Ambassadors Workshop' Mega Global Event at New Delhi

As huge number of students were registered for 'Student Solar Ambassadors Workshop' at MET Polytechnic, Govt. of India and IIT Mumbai has invited 25 no. Of students for Mega Global Event organized at New Delhi on 2nd Oct. 2019 on the occasion of 150th birth anniversary of Rashtrapita Mahatma Gandhi.

This event was scheduled at Indira Gandhi Indoor Stadium, New Delhi and it was organised by the Ministry of New and Renewable Energy (MNRE) in association with IIT Bombay. During the Program more than 10,000 students were participated. Two Guinness world records were tried to attempt during this workshop- 1] To provide sustainability lessons to the largest number of participants at a single place and 2] The largest number of solar lamps lit together.



Grand Opening of the SSA Workshop at New Delhi



MET –Polytechnic Student Participants were present at Student Solar Ambassador Workshop -2019

*"If you can't explain it simply,
you don't understand
it well enough"*

- Albert Einstein

Industrial Visit

Department of Electrical Engineering

To study the transmission process of the Electricity, Students of Third Year Electrical Engineering recently visited **132 KV Substation, Nashik**



Students and Staff of Electrical Engineering

To study live implementation of Generator System and Solar Panels Department of Electrical Engineering organized a site visit a **City Center Mall, Nashik**.



Study Visit at CCM –TYEE Students and Staff

To study the working knowledge Sewage treatment Plant, TYEE students visited recently **Sewage Treatment Plant - MNC, Nashik**.



Students Received an Information on Power Supply and Functioning of Machineries for Sewage Treatment.

Department of Computer Engineering

Department of Computer Engineering recently organized a visit at **Caliber InfoTech, Nashik** to let know their students about Software Development work processes of different live software projects.



Students and Subject Experts of Caliber InfoTech

Department of Information Technology Engineering

To study the Computer Networking and Hardware, students of IT Engineering Department successfully conducted visit at **Sunandai Infotech Pvt. Ltd, Nashik**.



Students of SYIT along with staff members

Department of Mechanical Engineering

To introduce various operation in the Field of Metallurgy, students of Mechanical Engineering recently visited **Jadhav Casting, Nashik**.



Students after studying various Casting Processes at work floor.

Department of Mechanical Engineering

To get the Practical knowledge and Demonstration of Automobile Servicing of micro assembly, students of SYME (SS) visited **Reliable Auto services, Nashik**



Students at Work floor

Department of Mechanical Engineering

To understand the practical functioning of 3D Printing, TYME students visited **"3D Printing Technocad" Nashik.**



TYME Students after their completion of study Visit

Experts Lecture

Department of Civil Engineering

A Guest Lecture on Personality Development, Career guidance and Opportunities in Government sector was conducted by the Department of Civil Engineering for TYCE Students



Guest Speaker Mr.Vaibhav Shirpurkar delivering the lecture.

You can turn painful situations around you through laughter.

Department of Mechanical Engineering

A Guest Lecture on "Steps to start your own Business" for All Third Year Diploma Students of Institute in association with EDP Cell of MET Polytechnic was organized by the Department of Mechanical Engineering.



Shri. Sachin Kedare, Ex-(IES) Deputy Director, Office of Textile Commissioner, Government of India addressed the session

Department of Computer Engineering

An Expert Session on "How to Use Your 100% Brain Power" and Personality Development for Third Year Computer Engineering Students was conducted recently.



Ms. Kshma Fernandies Conducted this Session

Department of Computer Engineering

To develop web application effectively an expert lecture on "Learn HTML through WordPress" was organized by the department of Computer Engineering.



Mr. Parag Achaliya guided this session for TY and SYCO Students

तुमच्या भोवतालची त्रासदायक परिस्थिती तुम्ही तुमच्या केवळ हसण्याने बदलून टाकू शकता.

Activities

MET Polytechnic celebrated Teacher's Day Program on 5th Sept, 2019. The program started with the significance of Teacher's Day and the role and purpose of a teacher. All the teaching and non-teaching members were felicitated at the hands of the Principal Dr Rajendra Narkhede. Various activities were performed by the students in appreciation of their Teachers. Principal, HODs and Teachers expressed their views on Teachers Day.

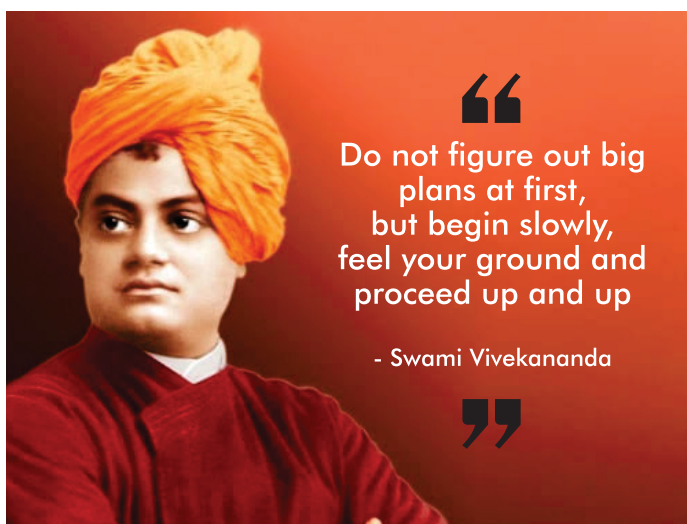
The program ended with a felicitation of staff members of their respective departments.



Department of Electrical Engineering



Department of Computer Engineering



Personality development Program for Faculties

Personality development helps a person to get positive thought pattern, gain confidence, improve behaviour, learn better communication and develop a healthy physique.

Teachers are the pioneers in shaping the lives of the Students. Being student, we have learned a lot from our teachers which we still find useful in our day-to-day lives. When it comes down to teacher's personality, not everyone has an attractive and disciplined personality.

So, it's high time that teachers need to understand the importance of personality development to shape the future of their students.

Considering these importance, MET Polytechnic Organized MSBTE Sponsored One Day training Program on "Personality Development" in association with SAITEJ Life Training Institute for Teaching Faculties from Aurangabad Region on 8th August 2019

A day long Scheduled program was full of with many personality development activities. Teachers from various Institute of Aurangabad Region have participated in this Program.



Mrs. Rupali Avhad- Director Saitej Foundation Addressing the audience.



Participants from various Institutes of Aurangabad Region.

MET – Polytechnic awarded as “Best Organizing Institute”

Considering the successful organisation on Personality Development Program for Polytechnic Staff consecutive two years at MET Polytechnic Dr. Ajit Avhad – Director, Saitej Foundation has announced MET –Polytechnic as “Best Organizing Institute” in the region.



Principal Dr R S Narkhed received this award on behalf of MET-Polytechnic.

“Police Kaka - Police Didi”

Nashik police has initiated the “Police Kaka” (police uncle) scheme aimed at resolving problems faced by school and college students in Nashik Region.

The “Police Kaka - Police Didi” scheme was launched by the superintendent of police, Shir Viswas Nagare Patil, in the presence of officials of MET Bhujbal Knowledge City , Nashik and a host of students, teachers and principals at a function held at MET Polytechnic , Adgaon Nashik .

Under the scheme, personnel right from constables to senior police inspectors and even deputy SPs will be assigned as “Police Kaka” for one educational institution in their respective jurisdiction. Similarly, one female personnel will be shortlisted to handle the task of Police Didi for each of the schools and colleges, to establish a friendly rapport with girl students.



MET Students are guided by police department, Nashik

International Yoga Day celebration

21st of June 2019 was celebrated as International Yoga Day with enthusiasm at the sports room of Bhujbal Knowledge City. National Service Scheme Unit of the institute organized this event. Students as well as staff members of the campus participated in huge number in this program.

Prof. Madhuri Pawar and Prof. Nitin Sonawane who are certified trainer as well as Yoga Practitioner demonstrates some Yoga Asanas and explained the importance of practicing yoga on a regular basis.

Yoga works on the level of one's body, mind, emotion and energy. Millions of people across the globe have benefitted by the practice of yoga and the practice of yoga is blossoming and growing more vibrant with each passing day.



participants in performing the Asanas and Pranayam



Participants Performing Yoga Activities

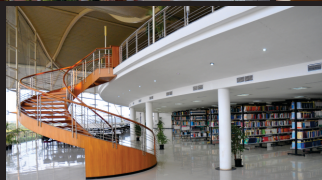


Participants Performing Asanas

Respected Principal from Various Institute of MET Bhujbal Knowledge City, HODs of the respective departments, Coordinators, teaching & non-teaching staff as well as students were full of exuberance and participated wholeheartedly to make this event a huge success.



Student's Cultural & Artistic Development in MET Utsav 20



MET-BKC CAMPUS

MET's INSTITUTE OF TECHNOLOGY, POLYTECHNIC

**GRAND SUCCESS IN MSBTE
 WINTER 2019 EXAMINATION**

*Heartily
 Congratulations*

THIRD YEAR MERITORIOUS STUDENTS

Mr. Saish Gawli
 TYCE-I (95.30%)

Mr. Aman Bodke
 TYCE-I (95.20%)

Mr. Shreyas Sonawane
 TYEE (93.80%)

Mr. Hrishikesh Kute
 TYCE-I (92.60%)

Mr. Hitesh Rathod
 TYCE-I (91.90%)

Mr. Kartik Ahirrao
 TYCE-II (91.80%)

Mr. Nishit Nikam
 TYME (91.43%)

Mr. Abhishek Thankar
 TYCE-II (91.30%)

Mr. Rushikesh Birari
 TYCE-II (90.90%)

Ms. Priyanka Adhav
 TYCE-II (90.90%)

Mr. Nikhil Aher
 TYME (90.67%)

Mr. Abhijit Chandak
 TYIT (90.59%)

Mr. Akash Jagtap
 TYCE-I (90.40%)

Mr. Jay Dargode
 TYCE-I (90.30%)

Ms. Yukta Bhatkar
 TYCO (90.00%)

Advisory Board

Student Members : Shreyas Sonavani (TYEE), Anurag Sawant (SYEJ), Zhuber Shaikh (SYME), Om Sabu (SYME), Mayur Wagh (SYME), Seema Varma (SYCE), Sakshi Wagh (TYIF), Punit Kharche (TYEE), Shivangi Khade (SYCE), Aditya Khairnar (FYIT)
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