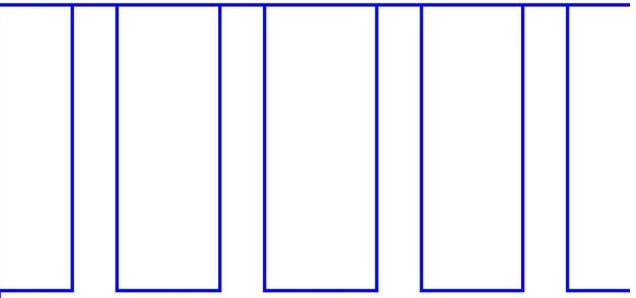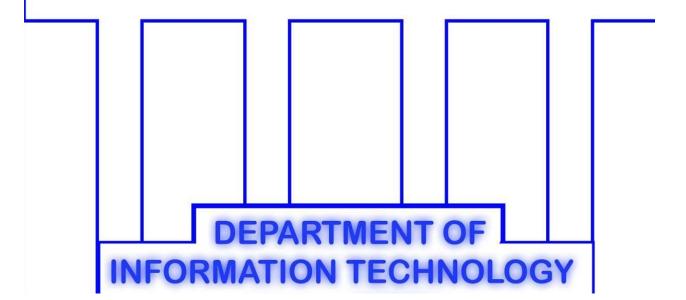# PRAGATI ENGINEERING COLLEGE (AUTONOMOUS)

**Approved by ACITE,New Delhi & Permanently Affilicated to JNTUK,Kakinada
&Accredited By NAAC with 'A' Grade**

SUTANTRA

- INFORMATION FOR ENLIGHTENING

DEPARTMENT OF INFORMATION TECHNOLOGY

About IT department

The Department of IT was established in the year 2001 to groom the students for the requirements of IT industry. The Department has emerged as a reputed center of learning in the coastal districts of Andhra Pradesh. Footprints of the department´s students can be found in most of the local and global software majors. Student of this department mainly, brought glory to the college by securing University Rank.

The department strives to empower the students, to achieve the demanding standards of IT industry, by bringing about a synergistic academic environment wherein cutting edge technologies, industry experts, faculty and students are engaged in a sustained interaction.

Vision of the College

To Emerge as a Premier Institution for Technical Education in the Country through Academic Excellence and to be Recognized as a Center for Excellence in Research & Development, catering to the needs of our Country.

Mission of the College

To realize a strong Institution by consistently maintaining State-of-art-infrastructure and building a cohesive, World Class Team and provide need based Technical Education, Research and Development through enhanced Industry Interaction.

Department Vision

To attain academic excellence in the field of Information Technology and research serving to the needs of the society through technological developments.

Department Mission

- To create stimulating learning ambiance by providing state-of-art infrastructure and to induce innovative and problem-solving capabilities to address societal challenges.
- To impart quality technical education with professional team to make the graduates globally competent to IT Enabled Services.
-To strengthen industry-academia relationship for enhancing research capabilities.

DEPARTMENT OF IT

PEOs for B.Tech IT Programme

PEO1:

Students will have successful career in IT as researchers, entrepreneurs and IT professionals satisfying the needs of the society.

PEO2:

Students will exhibit inclination towards higher education and continuous learning process.

PEO3:

Students will practice ethical behavior in IT industry with effective soft skills essential to work in teams.

PSOs for B.Tech IT Programme

PSO1:

Develop software programs in various programming languages learnt to create the software applications to solve the real life problems of the society.

PSO2:

Excel in emerging software tools and technologies.

PSO3:

Effectively transform their ideas and bring consensus for the transformation of the idea into a usable software product / application.
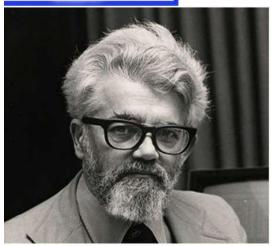
Program Outcomes (POs)

1. **Engineering knowledge:**Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem analysis:**Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions:**Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems:**Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Modern tool usage:**Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society:**Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. **Ethics:**Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:**Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

DEPARTMENT OF IT

John McCarthy

John McCarthy (September 4, 1927 – October 24, 2011) was an American computer scientist and cognitive scientist. McCarthy was one of the founders of the discipline of artificial intelligence He co-authored the document that coined the term "artificial intelligence" (AI), developed the Lisp programming language family, significantly influenced the design of the ALGOL programming language, popularized time-sharing, invented garbage collection, and was very influential in the early development of AI.

He received many accolades and honors, such as the 1971 Turing Award for his contributions to the topic of AI, the United States National Medal of Science, and the Kyoto Prize.

McCarthy often commented on world affairs on the Usenet forums. Some of his ideas can be found in his sustainability Web page, which is "aimed at showing that human material progress is desirable and sustainable". McCarthy was a serious book reader, an optimist, and a staunch supporter of free speech.

McCarthy saw the importance of mathematics and mathematics education. His Usenet .sig for years was, "He who refuses to do arithmetic is doomed to talk nonsense"; his license plate cover read, similarly, "Do the arithmetic or be doomed to talk nonsense."

His 2001 short story "The Robot and the Baby" farcically explored the question of whether robots should have (or simulate having) emotions, and anticipated aspects of Internet culture and social networking that have become increasingly prominent during ensuing decades.

Honors and awards of John McCarthy

1. Turing Award from the Association for Computing Machinery (1971).
2. Kyoto Prize (1988).
3. National Medal of Science (USA) in Mathematical, Statistical, and Computational Sciences (1990).
4. Inducted as a Fellow of the Computer History Museum "for his co-founding of the fields of Artificial Intelligence (AI) and timesharing systems, and for major contributions to mathematics and computer science". (1999)
5. Benjamin Franklin Medal in Computer and Cognitive Science from the Franklin Institute (2003).
6. Inducted into IEEE Intelligent Systems' AI's Hall of Fame (2011), for the "significant contributions to the field of AI and intelligent systems".
7. Named as one of the 2012 Stanford Engineering Heroes.

Viewsonic XG2431 gaming monitor to Zebronics Jumbo: Tech launches in July 2022

Viewsonic XG2431 gaming monitor

Viewsonic has launched the XG2431 gaming monitor in India. The monitor has a 1920×1080 Full HD resolution and Viewsonic advertises a 240Hz refresh rate and a 0.5 ms (GtG) response time for the monitor. It comes with AMD FreeSync support. Along with AMD FreeSync support, the monitor comes with Viewsonic PureXP technology that uses backlight strobe technology to reduce motion blur, image ghosting and strobe crosstalk.
It is also Vesa HDR 400 certified and is aimed at gaming enthusiasts and professionals playing first-person shooter games, multiplayer online battle arena games, and real-time strategy games. The Viewsonic XG2431 will be available exclusively on Amazon and will cost Rs 33,300.

Zebronics Jumbo neckband earphones

Zebronics has announced the launch of its Jumbo neckband which gets 160 hours of battery life according to the company. The Zebronics Jumbo supports rapid charging and can give up to 15 hours of battery life when charged for 10 minutes through its Type C port. The neckband earphones will come in three colours: sunset, black and blue. It will be available on Amazon from July 23 at an introductory price of Rs 1,399.

mazfit GTS 4 Mini smartwatch

Amazfit has announced its new GTS 4 Mini smartwatch. The smartwatch comes with an ultra-slim and lightweight design and comes with the Zepp OS operating system. The company claims that the device's battery will last up to 15 days. The watch has a 1.65-inch HD AMOLED display and the 9.1mm watch body weighs just 19 grams without the strap.
It comes with over 120 sports modes and 5 ATM water resistance. It can continuously track user heart rate, SpO2, stress and sleep cycle among other indicators. The watch comes in three colours: Midnight Black, Flamingo Pink, Mint Blue, and Moonlight White. The watch goes on sale on Amazon and Amazfit's website on July 16 and will cost Rs 6,999.

Xiaomi Smart Standing Fan 2

The [Xiaomi](#) Smart Standing Fan 2 is equipped with 7+5 wing shaped blades, 100 levels of speed and voice control support. Customers have minute control over the desired air speed, and can set it from 1 to 100 via the Mi Home app. The fan setup weighs 3Kg and delivers an airflow of up to 20m³/min.

Aiwa Magnifiq Smart TV

Aiwa's new Magnifiq Smart TV range has multiple variants ranging from 32-inch to 65-inch sizes. The TVs come with [Android](#) 11 and [Google](#) Assistant support and also a built-in soundbar on the 55-inch

and 65-inch variants. The TV can output up to 350 nits brightness and supports 1.07 Billion colours. Other features include MEMC support and anti-glare. The range is priced between Rs 29,990 to Rs 1,39,990.

Lava Blaze

The Lava Blaze is an entry-level smartphone that comes with a 6.5-inch 720p display, 10W charging and is powered by a MediaTek Helio A22 chipset. There is also a 5,000mAh battery and a 13MP triple camera setup on the back. The phone comes with Android 12, 3GB RAM, 64GB storage and is priced at Rs 8,699.

9 New Emerging Technology Trends For 2022

Technology is constantly advancing, allowing quicker development and reform and accelerating the transition rate. Nevertheless, it is not just technology trends and developing technologies that are changing. Much more has altered this year due to the spread of COVID-19, which has made IT experts recognize that their job in the sensitive world of the future will not be the same.

Because of the global epidemic, most of the global IT workforce is staying home. From 2021 to 2022, an IT expert will continuously learn, deprogram, and practice. It entails keeping up with evolving technologies and the most recent technological trends. And if you want to get the most of your free time in 2022, here are the top 9 emerging technology trends you must keep an eye on.

New Technology includes, but is not confined to, new procedures, new technologies, machinery, and developments to applications of current programs, computers, manufacturers, and tools.[1] New software applications, enhancements to or new apps of existing computer programs, whether or not copyrightable, are also included.[2] Remember that techniques, products, and procedures established through research or science are called "**new technology.**"[3]
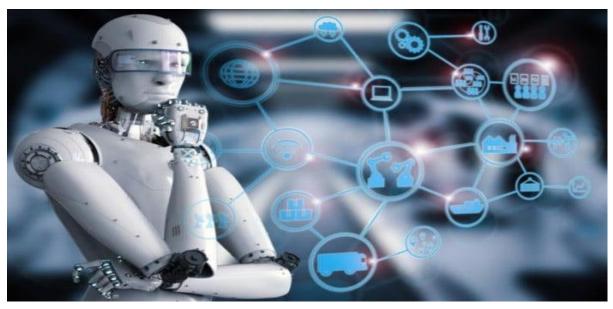
1. RPA or Robotic Process Automation

One of the technologies that automate employment is robotic process automation or RPA. RPA uses software to automate a company's operations, such as application interpretation, transactions, and even email responses. Moreover, it automates works that formerly needed human intervention. It offers a variety of employment prospects for IT professionals looking to the future of the latest technology developments.

According to Deloitte 2017 global shared services survey,4

"Robotic Process Automation (or RPA) is a rapidly emerging technology that will fundamentally change how SSCs (Shared Service Center's) operate, slashing the effort for routine tasks and enabling advanced cognitive applications that augment or replace human judgment in knowledge-based processes."

2. Machine Learning and Artificial Intelligence (AI)

3. Edge Computing

4. Augmented Reality or Virtual Reality

Virtual Reality and Augmented Reality (AR) are significant technological trends. AR enriches the user's environment while virtual reality immerses them in it. Although this tech trend has been chiefly utilized for gaming, it is also used for training, such as VirtualShip.

IKEA and Pokémon Go, for example, are two brands that operate in very different markets. However, they leveraged augmented reality to create unique user experiences that entice buyers.

5. Quantum Computing

Quantum computing is the next notable technology trend, a type of computing that takes control of quantum phenomena. Because of its ability to readily query, analyze, evaluate, and act on data from any source, this remarkable innovation trend is also implicated in solutions. It helps in avoiding the spread of COVID-19 and developing viable vaccines.

6. Blockchain

Although most individuals associate blockchain technology with cryptocurrencies like Bitcoin, it provides security in various ways. Blockchain is data you can only incorporate, not subtract or change in its most basic form. Moreover, because blockchains are consensus-based, no single party can control the data. You don't need a responsible third party to oversee or verify transactions with blockchain.

7. IoT or Internet of Things

IoT is another exciting new technology trend. Several "things" now possess WiFi connectivity, enabling them to connect to the internet. As a result, the IoT was established. It is the future wave and has already encouraged devices, home appliances, cars, and much more to link to the Internet and share information.

According to a report by Statistal.

8. Cyber Security

Given its long history, it may not appear to be **an emerging trend** in technology. Yet, it is transforming at the same rate as other technologies because threats are continually changing. So, hackers attempting to access data or information illegally will not give up quickly. They will continue to improve ways to circumvent even the most stringent protective measures.

Metaverse:

Metaverse is one of the hottest buzzwords of the moment. It's basically a virtual world created by combining different technologies, including virtual and augmented reality.

While it doesn't technically exist yet, companies like Facebook hope the metaverse will become a place where we go to meet, work, play, study and shop.

This 'extended reality' is predicted to be the next evolution of the internet and will blur the lines between physical and digital life. Think in-game purchases, where computer gamers can buy virtual goods and services using real money. Jobs in the metaverse might include personalised avatar creator or metaverse research scientist.

Self-fertilizing crops

Fertilizer containing around 110 million tonnes of nitrogen is used in global crop production every year. This accounts for 1% to 2% of global carbon dioxide (CO2) emissions.

But plants like soy and beans – from the legume family that also includes peas and lentils – use a "clever way" to produce their own nitrogen – according to the Top 10 Emerging Technologies of 2021 report, created by popular science magazine Scientific American and the World Economic Forum.

Scientists now hope to "coax" other crops like corn and other cereals to self-fertilize.

3D-printed houses

Feeding materials like concrete, sand and plastics into a massive 3D printer to print homes is a "relatively simple and low-cost construction method," the Forum says in the report.

But lack of infrastructure to transport materials has precluded the use of 3D printing for the remote and emerging regions where it could have the most impact.

This could change if more companies follow the lead of Italian 3D printing company WASP, which has demonstrated how to print housing components using local materials like clay soil.

Low-carbon shipping

Today, 2% or less of road transport fleets produce zero emissions. But, as a result of bulk shipping - both rail and seaborne - low-carbon solutions have emerged, says Bernard S. Meyerson, Chief Innovation Officer Emeritus at IBM and Vice-Chair of the Top 10 Emerging Technologies steering group.These include a CO2-emission-free passenger train, the Coradia iLint, and the development of alternative shipping fuels like green ammonia, a carbon-free gas produced using renewable energy.

EDITORIAL BOARD