JB | INSTITUTE OF ENGINEERING & TECHNOLOGY
(UGC Autonomous)
(Accredited by NAAC, Approved by AICTE & Permanently Affiliated to JNTUH)

Department of cse

About College

Vision & Mission
Vision

To be a center of academic excellence in engineering and management education, research and application of innovative methods to benefit the society with ethical values.

Mission

- To provide world class engineering education, encourage research and development.
- To develop innovative applications of technology and prepare to accept challenges globally.
- To mould the students career to become self reliant and socially responsible.

Sri. J.V.Krishna Rao HRA (USA)
-Secretary
J.B. Educational Society

About Department

Vision

To meet the emerging trends in computer Science and Engineering, strive for self-reliance enabled through high end research by adapting a futuristic approach.

- To impart qualitative education, prepare students refurbish their latent talents and aspire for a pragmatic career in Computer Science and Engineering.
- To provide an ambiance to develop strategic areas of advance study with perception to foster industry centric education in computer science and Engineering.
- To Inculcate self-learning among students to make them self-reliant and socially responsible.

Mission

HOD Message

Its my immense pleasure to head the department of computer science and engineering. The department has consistently maintained an exemplary academic record. The greatest asset of the department is its highly motivated faculty and learned faculty.

The objective of the department is to prepare students for successful career in industry, research and academics to meet the needs of growing technology.

"We are what our thoughts have made us. So take care about what you think. Always be a part of solution, don't be the part of problem. Always try to update your knowledge otherwise you will be outdated. If you want successs do all things you are supposed to do then you need not search for shortcuts".

Mr. Abhay Kumar,
Associate Professor
Hod Department of CSE

"People worry that computers will get too smart and take over the world, but the real problem is that they're too stupid and they've already taken over the world."

Technology trends in 2017

Using DNA as a Memory Drive

Scientists have successfully encoded a simple movie in bacteria DNA, and played it back. Using DNA for data storage is not as crazy as it sounds…Not that many years ago, if you had a "portable" hard drive, it was not actually that portable. Today it's possible to purchase a storage device capable of holding a gigabyte of data that's small enough to swallow. And the next generation of computers and memory devices is even smaller: DNA. Scientists at Harvard have successfully **encoded a simple movie in bacteria DNA**, and played it back. Yes, really.

Using DNA for data storage is not as crazy as it sounds. After all, DNA already is an incredible storage device; cellular DNA basically contains all the information needed for an organism to function, stored in a microscopic package. The potential goes way beyond making a more complex memory drive: researchers want to record what happens inside living cells.

However, just because DNA is already a form of storage does not mean this is a simple process. The DNA data recorder has been approached from several angles, but a simple one is to insert a DNA sequence specially designed for memory storage and integrate it into a cell's DNA. A **2012 study by Stanford and UW researchers** useda phage virus and various enzymes to integrate their custom sequence into a bacterial DNA. Improved genetic editing techniques, e.g. **CRISPR**, simplify the process. Cells don't live forever, but the recorder could survive repeated cell divisions. Once this technology is fully functional, some researchers think it could be used to study and record information on cancer replication at an unheard of level of detail. The information could be used to devise far more effective treatments then currently exist.

The potential of genetic material does not end with data storage; biological computers are also under development. **These scientists found biological systems** to be elegant solutions for the physical barriers that start to appear as processors shrink. For example, in a tiny processor, circuits get too close together and may not be able to function without interfering with each other. In a biological computer, there are no circuits so these kinds of problems don't exist. Further benefits are that a molecular computer generates little heat and will not require energy intensive cooling systems. There are a variety of ways to turn DNA (or RNA) into a computer, but the basic idea is that some sort of input causes a single strand of DNA or RNA to perform a reaction. A type of enzyme called DNAzymecatalyses or otherwise facilitates chemical reactions; the correct input will trigger a reaction corresponding to a Boolean command, such as "and," "or," "if," etc. These reactions replace the 1s and 0s typical of an electronic circuit.
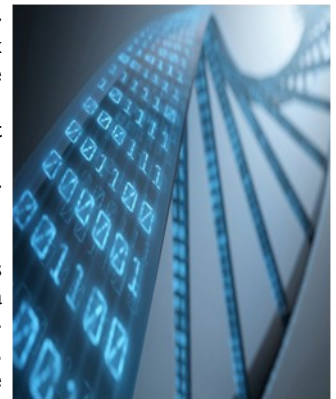
Faculty Achievements

- Dr. P.Srinivasa Rao, B Nageswara Rao, A. Ramesh Babu, M. Naveen Babu, D. Himagiri, P. Vamshi, S. Sathish Kumar, T. Saikumar have attended a 6 days workshop on Internet Of Things (IoT) conducted in JBREC from 9/10/2017 to 14/10/2017.

- T. Saisree, G. Soujanya, K. Ramya Krishna, Srikanth Kama, M Renuka, P Srikanth, R Srikanth, S Sathish Kumar, M. Srinivasa Rao, P. Vamshi, T. Sai Kumar, K. Swathi, V. Harshitha, have attended a Two day Faculty Development Program (FDP) "Induction Course for Newly Joined Faculty conducted in JBIET from 19/11/2017 to 20/11/2017.

- Dr Niraj Upadhyaya has chaired a technical session in the International Conference on Computatuional Intelligence and Data Engineering (ICCIDE-2017) during 14th & 15th July -2017, held at Lakireddy Bali Reddy College of Engineering (Autonomous), Mylavaram, Andhra Pradesh, India.

Student Achievements

- Abhinav Jaiswal(14671A0552), D.V.S Rohit(14671A0550), K.Sanga Mithra(14671A0593), Sai Hrudai (15671A0551), students of Computer Science and Engineering, has participated in (Basket Ball - MEN) State Inter Engineering College Tournament, conducted from 11/9/2017 to 16/9/2017 held at Srinidhi Institute of Science & Technology, Ghatkesar, Hyderabad.

- D.V.S Rohit (14671A0550), of Computer Science and Engineering, has participated in (Basket Ball - MEN) University Selections held at JNTUH Campus, Hyderabad.

- Abhinav Jaiswal (14671A0552), of Computer Science and Engineering, has participated in (Basket Ball - MEN) University Selections held at JNTUH Campus, Hyderabad.

- B. Ram Prasad (15675A0506), of Computer Science and Engineering, has participated in (Wrestling - MEN) University Selections held at Gachibowli Stadium, Hyderabad.

- N. Dayakar (14671A0596), of Computer Science and Engineering, has participated in (KHO KHO - MEN) University Selections held at CMR Technical Campus, Medchal.

Technical Interview Questions

1. What is an operating system?

An operating system is a program that acts as an intermediary between the user and the computer hardware. The purpose of an OS is to provide a convenient environment in which user can execute programs in a convenient and efficient manner.

2. What are the different operating systems?

1. Batched operating systems

2. Multi-programmed operating systems

3. timesharing operating systems

4. Distributed operating systems

5. Real-time operating systems

3.What is kernel?

Kernel is the core and essential part of computer operating system that provides basic services for all parts of OS.

4. What is dead lock?

Deadlock is a situation or condition where the two processes are waiting for each other to complete so that they can start. This result both the processes to hang.

5.What is semaphore?

Semaphore is a variable, whose status reports common resource, Semaphore is of two types one is Binary semaphore and other is Counting semaphore.

6.What is virtual memory?

Virtual memory is hardware technique where the system appears to have more memory that it actually does. This is done by time-sharing, the physical memory and storage parts of the memory one disk when they are not actively being used.

7.What is thrashing?

It is a phenomenon in virtual memory schemes when the processor spends most of its time swapping pages, rather than executing instructions. This is due to an inordinate number of page faults.

8.What is a daemon?

Daemon is a program that runs in the background without users interaction. A daemon runs in a multi-tasking operating system like UNIX. A daemon is initiated and controlled by special programs known as processes.

9.hat is a drawback of MVT?
1) ability to support multiple processors
2) virtual storage
3) source level debugging

10.What are the reasons for process suspension?
1) swapping
2) interactive user request
3) timing
4) parent process request

Student Articles

<u>Tomorrow's processor technology will be fundamentally different</u>

While the last ten years of Intel's processors have focused on building speed and power, and adding functionality, it looks like a radical shift is coming. Intel is going to be looking to improve energy efficiency in the future, rather than performance, according to the MIT Technology Review

The story comes from statements made by Intel's head of technology and manufacturing, William Holt. He didn't mince words at the International Solid State Circuits Conference in San Francisco, stating" we're going to see major transitions. The new technology will be fundamentally different."

There are two reasons for a potential change in direction. The first is demand for smaller, more energy efficient products. Smart watches started the trend towards microprocessors in smaller devices, but the Internet of Things (IOT) is pushing it to even more extreme levels. Everything from light bulbs to drones needs microprocessors, and Intel is in a prime spot to lead that charge.

The other is out of a need to change up Intel's manufacturing process and timeline. The Tick-Tock model, which traditionally alternated architecture redesigns and die shrinks, has fallen apart as of late. Each new die size now takes longer than the previous, with no signs it will pick back up again. In order to continue down the same path, the manufacturing process needs to change.

Which brings us to quantum mechanics? There are two possible methods Intel might consider for the next big step in processor technology. The first is tunneling transistors, which harness electron interference to provide more consistent signals at smaller sizes. The other is a technology called spintronics, which uses the position of an electron around an atom to capture a magnetic moment.

Neither technology is ready for mass production on the scale that Intel needs. Spintronics is the closer of the two, with the possible launch of a few proof of concept chips in the near future. Toshiba even created an SRAM chip based on the technology, but there's a bit of a snag. Regardless of which of the two options Intel decides to pursue (likely both), the performance we'll see from those new chips is likely to be slower than we're used to seeing now.

Granted, the performance gains will return with time and development, and any chip that takes advantage of spintronics or tunneling will be largely focused on minuscule size and power usage. With the way the market is shifting away from personal computers towards mobile solutions, Intel is making sure to stay on the right side of the war.

"If I love myself despite my infinite faults, how can I hate anyone at the glimpse of a few faults."-

swami vivekananda

There are no shortcuts to any place worth going. – *Beverly Sills*

"All that we see or seem is but a dream within a dream."
— **Edgar Allan Poe**

"Everything that irritates us about others can lead us to an understanding of ourselves."
— **Carl Gustav Jung**

"Change the way you look at things and the things you look at change."
— **Wayne W. Dyer**