Student Achievements

HARSHITHA M
89.1%

SHRE SHAKTHY
86.8%

HEMANTH KUMAR B
79%

G POORNIMA
70.3%

PRAJWAL N
70%

SHREYAS N
70%

MEGHA S
8.78

PREETHI V M
8.22

HEMASHREE K
8.11

SOWJANYA G
8.06

AMRUTHA S
7.89

VANDANA B
7.77

ASHWINI P N
7.56

SPOORTHI S
7.50

AKHILA K J
7.22

CHANDAN KAKADE
7.17

ABHISHEK P
7.0

EDITORIAL TEAM

HEMANTH KUMAR B

Mrs. SUKSHMA RD

Mrs. SAVITHA KV

TECHZONE

A IT Magazine - Department of Computer Science

HINDUSTAN FIRST GRADE COLLEGE

A Unit of Hindustan Group of Institutions, Chennai

Vol-1 **19th July 2019** **Issue-02**

Principals' Desk ....✍

"Education is a shared commitment between dedicated teachers, motivated students and parents with high expectations".

True to these words, Hindustan First Grade College is constantly striving hard to inculcate academic excellence, to motivate and empower the students to be involved in the continuous learning process. Very few have realised the wealth of sympathy, kindness and generosity hidden in a student. The effort of every educator should be to unlock that treasure and Hindustan First Grade College is an excellent example where everyone strives indefatigably for this. This Institution has been nurturing young minds of the city for the past few years with the belief that the heart of education is the education of the heart. Tech zone which is treasured with valuable information has come out successfully. Each issue of the newsletter marks our growth, unfolds our imaginations and gives life to our thoughts and aspirations. I congratulate the Editorial board on its tireless efforts in bringing out this newsletter. My sincere thanks to the persons who have contributed to this issue and enhanced its perfection through their articles on latest trends in IT field.

Dr. Priya C J

Editor's Note ....✍

It gives me great opportunity to present the TechZone IT Magazine. The issue comprises the activities and achievements of the Department in the Academic and Co-curricular activities. The Department aim is to impart value based quality education along with development of positive attitude, skills and abilities among students to apply their knowledge in order to face the challenges of future.

Department of Computer Science commits to work towards developing Software Engineers with a rich blend of competent, technical and social skills and contribute to nation building. In order to fulfil this, TechZone IT Magazine is a platform for students of this Department to explore in ITfield. I congratulate the team of faculty members and the students for their brilliant and sincere efforts. I wish all the Students a great academic career. I wish the contributors and the readers a very happy time ahead.

Mrs. Sukshma R D
Assistant Professor
Dept of Computer Science

PHOTO GALLERY

"TECHZONE" IT magazine was released by Dr. Suresha S, Chairman Department of Computer Science, University of Mysore on 13th Feb 2019 .

A one day seminar on **"Ethical Hacking"** was organized by HFGC on 16th Feb 2019.The Resource person Mr. Irdal was invited to address the students.

BCA Students visited **Infosys, Mysore** as part of Industrial Visit on 9th Feb 2019.

Mr. Hemanth Kumar and Mr. Prajwal, III BCA have secured 1st Place in the coding event organized by **Christ College, Mysuru** on 3rd Mar 2019.

Hemanth Kumar B of III BCA has secured 1st Place in Coding Event organized by **Sheshadripuram college** on 20th Feb 2019.

Hemanth Kumar B and G Poornima of III BCA has secured 1st place in Coding Event organized by **Amrita College, Mysore** on 14th Mar 2019.

BCA students had taken part in Training Program organized by BSNL Mysore.

HFGC organized one day trip to coorg for BCA students on 9th Jan 2019.

Top 10 Trending Technologies

Top 10 Trending Technologies Change is the only constant. This applies in your professional life as well. ***Up-scaling yourself*** is a need nowadays, the reason is pretty simple, technology is evolving very quickly. I have listed top 10 trending technologies, which is expected to acquire a huge market in 2019.

80% INTERVIEW REJECTIONS HAPPEN IN FIRST 90 SECONDS

Take Mock Interview

- **Get Interviewed by Industry Experts**
- **Personalized interview feedback**

So, let's make a new year resolution to master any one of the below technologies:

1. Artificial Intelligence
2. Blockchain
3. Augmented Reality and Virtual Reality
4. Cloud Computing
5. Angular and React
6. DevOps
7. Internet of Things (IoT)
8. Intelligent Apps (I – Apps)
9. Big Data
10. RPA (Robotic Process Automation)

10) RPA Training – Explore the Curriculum to Master RPA.

• Generally, any desk job in any industry involves tasks that are repetitive in nature and can be automated.

• RPA or Robotic Process Automation allows you to automate such routine and repetitive tasks.

• You don't need to write any code to automate repetitive tasks.

In 2019, the trend of bots and machine learning is only going to skyrocket, which means RPA will become an invaluable skill to have.

9) **Big Data: Big Data and Hadoop Training** – Explore the Curriculum to Master Big Data and Hadoop.

Big data refers to problems that are associated with processing and storing different types of data.

Most of the companies today, rely on big data analytics to gain huge insight about their:

• customer,
• product research,
• marketing initiatives and many more

.

For your surprise, big data led Germany to win the world cup.

Hadoop and Spark are the two most famous frameworks for solving Big Data problems.

If you already have some knowledge of Big Data, splendid! If not, now is the time to start.

8) **Intelligent Apps** (I – Apps):

• I-Apps are pieces of software written for mobile devices based on artificial intelligence and machine learning technology, aimed at making everyday tasks easier.

• This involves tasks like organizing and prioritizing emails, scheduling meetings, logging interactions, content, etc. Some familiar examples of I-Apps are Chatbots and virtual assistants.

As these applications become more popular, they will come with the promise of jobs and fat pay checks.

7**) Internet of Things (IoT):**

• Another buzzword that no longer remains a buzzword but has become a full-fledged technology ecosystem in itself.

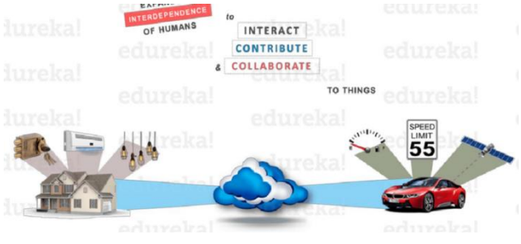
• IoT essentially is connecting many devices and creating a virtual network where everything works seamlessly via a single monitoring center of sorts.

• IoT is a giant network of connected devices – all of which gather and share data about how they are used and the environments in which they are operated.

This includes everything from your:

• mobile phones,
• refrigerator,
• washing machines to almost everything that you can think of. With IoT, we can have smart cities with optimized:
• traffic system,
• efficient waste management and
• energy use

So, start thinking of some new excuse for coming late to the office other than traffic



6) **DevOps: DevOps Training** – Explore the Curriculum to Master DevOps tools.

This is the odd one out in the list. It is not a technology, but a methodology.

DevOps is a methodology that ensures that both the development and operations go hand in hand. DevOps cycle is picturized as an infinite loop representing the integration of developers and operation teams by:

• automating infrastructure,
• workflows and
• continuously measuring application performance.

It is basically the process of continual improvement, so why not start with yourself.

5) **Angular and React: Angular and React Training** – Explore the Curriculum to Master Angular and React.

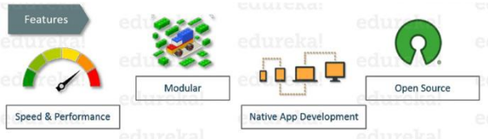
OK, now we are getting into core tech.

• Angular and React are JavaScript based Frameworks for creating modern web applications.

• Using React and Angular one can create a highly modular web app. So, you don't need to go through a lot of changes in your code base for adding a new feature

.• Angular and React also allows you to create a native mobile application with the same JS, CSS & HTML knowledge.

• Best part – Open source library with highly active community support.



4) **Cloud Computing: AWS Solution Architect Training** – Explore the Curriculum to Master AWS

- This one is a veteran.

Intel Atom

Introduced on 2008

32 or 64-bit processor

Single, Dual Core processor

Clock speed 0.6 – 2.13 GHz

47 million transistors at 45 nm

Also known as Centrino Atom

Low power, small size processor

Widely used in Portable Netbooks

Intel Celeron

32 bit or 64-bit processor

Introduced on April, 1998

Single, Dual Core processor

Clock speed 0.26 – 3.6 GHz

2MB L3 cache

Used in budget range PC's

Intel Xeon

32 bit or 64-bit processor

In use from 1998

Clock speed 0.4 – 4.4 GHz

Up to 16 cores

Up to 24MB L3 cache

Very high-end processor

Used for non-consumer workstation, server

Intel Pentium Dual Core - The Intel Pentium processors with Intel dual-core technology deliver great desktop performance, low power enhancements, and multitasking for everyday computing.

32 bit or 64-bit processor

Introduced on 2006

Dual Core processor

Clock speed 1.3 – 2.6 GHz

228 million transistors at 90 nm

Support for Simultaneous Multi-Threading

Intel Core 2 Series

Pure 64-bit processor

Introduced on July 27, 2006

Multi core on a single chip

Dual, Quad Core processor

Clock speed 1.06 – 3.33 GHz

291 million transistors at 45 nm

64 KB of L1 cache per core

4 MB of L2 cache

Core 2 Duo widely used in desktops, laptops

Core 2 Quad used for business purposes

Intel i3 Intel Core i3 dual core processors provide 4-way multitasking capability, runs at fixed speed ideal for typical tasks and media playback but not games. Introduced in January 7, 2010

Intel i5 Intel i5 usually quad core but some dual processors deliver the next level of productivity. Mostly the same as i3 but with Intel Turbo Boost Technology, delivers extra speed when you need it. Like the i3 integrated graphics is included but is only ideal for normal use not for gaming.

Introduced September 8, 2009

Intel i7 Intel i7 processors dual or quad core for the most demanding applications with cache and faster clock speeds. Quad-core processors feature 8-way threading, four cores will run faster, and more L3 cache, but will consume more power. High-end use, video and gaming with dedicated video card. Introduced November 17, 2008

Intel i9 Processors

Intel Core i9 CPUs, meanwhile, offer eight cores. The i9 is the most powerful option of the Intel Core ranges, so would be the processor to plump for if you're not shy spending money.

Mrs. Savitha K V
Assistant professor

80486

Introduced in 1989

1.2 million transistors at 1 µm

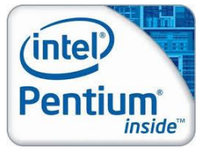
Clock speed 16 – 100 MHz

1 TB Virtual Memory

Cache Memory of 8 KB was introduced

Used in Desktop computing and Servers

Intel Pentium



Introduced in March 22, 1993

Originally named 80586

Clock speed 60 – 66 MHz

Executes 110 MIPS

3.1 million transistors at 0.8 µm

Virtual Memory 64 TB

16 KB L1 cache memory

Intel Pentium Pro

Introduced in November 1, 1995

Clock speed 150 – 200 MHz

5.5 million transistors at 0.5 µm

16 KB L1 cache memory

256 KB L2 cache memory

Access up to 64GB of memory

Primarily designed for servers

Used in ASCI Red supercomputer

Intel Pentium II

Introduced on May 7, 1997

Clock speed 233 - 450 MHz

7.5 million transistors at 0.35 µm

Execute 333 MIPS

L2 cache & processor were on one circuit

Intel Pentium III

Introduced on Feb 26, 1999

Clock speed 0.45 – 1.4 GHz

9.5 million transistors at 0.25 µm

L2 cache increased to 512 KB

Used faster core than its predecessor

Intel Pentium IV

Introduced on November 20, 2000

security and interoperability of the healthcare data. It holds the potential to address many interoperability challenges in the sector and enable secure sharing of healthcare data among the various entities and people involved in the process. It eliminates the interference of a third-party and also avoids the overhead costs. With Blockchains, the healthcare records can be stored in distributed data bases by encrypting it and implementing
in the arms, which maintains the

- Most other technologies on this list are alive only because of the proliferation of cloud computing.
- By allowing companies to save money, and users to simplify their computing needs, Cloud Computing is one of the most trending technologies that will stay popular in 2019, without a doubt.

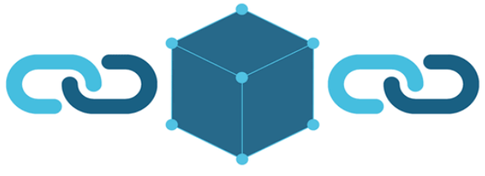
3) **Augmented Reality and Virtual Reality:**

- Virtual is real! VR and AR, the twin technologies that let you experience things in virtual, that are extremely close to real, are today being used by businesses of all sizes and shapes. But the underlying technology can be quite complex.
- Medical students use AR technology to practice surgery in a controlled environment.
- VR on the other hand, opens up newer avenues for gaming and interactive marketing.

*Whatever your interest might be, AR and VR are must-have skills if you want to ride the virtual wave!*2) Blockchain:

Blockchain Training – Explore the Curriculum to Master Blockchain.

• This is the tech that powers bitcoins, the whole new parallel currency that has taken over the world. • Interestingly, blockchain as a technology has far-reaching potential in everything from healthcare to elections to real estate to law



Understand how blockchain works and your career is as sorted as the secure ledger this tech is based on!

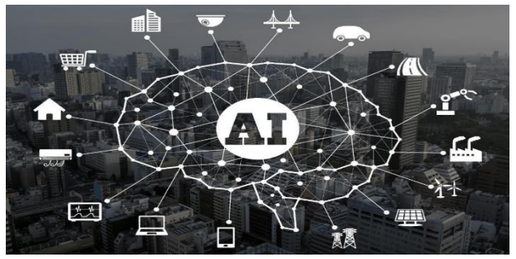
1) **Artificial Intelligence (AI):**

Artificial Intelligence Training – Explore the Curriculum to Master AI and Deep Learning.

• AI existed even before the internet was born, but it is now that the data processing and compute power backbone became strong enough to sustain an entire technology by itself.

• AI is everywhere today, from your smartphones to your cars to your home to your banking establishment.

• It is the new normal, something the world cannot do without.



Get your hands dirty with AI and have a crystal-clear career ahead of you! Choose one

Karthik R
V Sem BCA

Computer processor

Every PC has a Central Processing Unit (CPU) this acts as the brain of your system. It connects to the Motherboard and works alongside the other components processing many instructions at the same time between the different hardware and memory systems.

Advancements in CPU technology now mean systems typically come at least Dual Core, Quad Core or more processors (on one single chip) instead of the traditional one core per chip. Now the total number of Cores can slot into a socket as before and a single heat sink and fan can keep everything to the right temperature

Intel – The company was established in 1968 by RobertNoyce and GordenMoore. HeadquarteredinSantaClara,California

Different types of Intel Processor

4004

First 4-bit microprocessor

Introduced November 15, 1971 by Intel

Clock rate 740 kHz.

Executes 60,000 instructions per second

Instruction set contained 46 instructions

Number of Transistors 2,300 at 10 µm

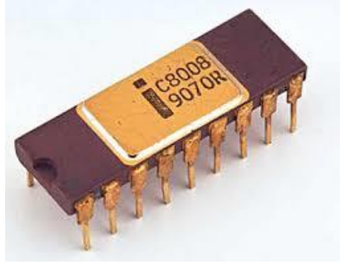
Addressable Memory 640 bytes

Register set contained 16 registers

8008

First 8-bit processor

Introduced April 1, 1972



Clock Speed 500 kHz

Execute 50,000 instructions per second

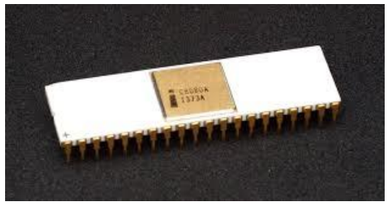
Number of Transistors 3,500 at 10 µm

Addressable Memory 16 KB

Register set contained 7 registers

Designed for use in Datapoint 2200 microcomputer

8080



Introduced April, 1974

Clock Speed 2 MHz

Transistors 4,500 at 6 µm

10 times faster than Intel 8008

Execute 500,000 instructions per second

8085

Introduced 1976

Clock Speed 3 MHz

Executes 0.37 MIPS

Number of transistors 6,500 at 3 µm

100 million copies were sold

8086

First 16-bit processor

Introduced in June 8, 1978

Introduction of x86 architecture

Clock speed is 4.77 – 10 MHz

29,000 transistors at 3 µm

Execute 2.5 MIPS

Used in portable computing, IBM PS/2 computers

8088

Introduced June 1, 1979

Backward compatible 8086

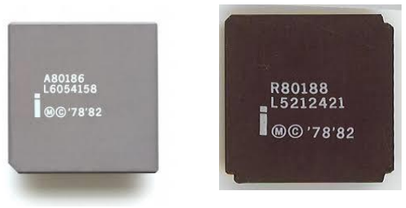
Clock speed is 5 – 10 MHz

Created as a cheaper version of Intel's 8086

Used first in IBM-PC

Highly successful due to large sale of IBM-PC

80186 & 80188



Introduced in 1982

Clock speed was 6 MHz

80188 was a cheaper version of 80186

55,000 transistors at 3 µm

Had additional components like:

Interrupt Controller

Clock Generator

Local Bus Controller

Counters

80286

Introduced in February 2, 1982

Clock speed was 8 MHz

134,000 transistors at 1.5 µm

Execute 4 MIPS

First with memory management, protection abilities

Introduces "Virtual Memory Concept"

Widely used in IBM PC

80386

First 32-bit processor

Introduced in October 17, 1985

Clock speed 16 – 33 MHz

2,75,000 transistors at 1.5 µm

Address 4 GB of memory

Concept of paging was introduced

Bestselling microprocessor in history