BCA Hons. Degree Part – I

Subject : IBM PC

Topic – Evaluation of Microprocessor

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Evaluation of Microprocessor

1. First Generation – 4bit Microprocessors

The Intel corporation came out with the **first generation of microprocessors in 1971**. They were 4-bit processors namely Intel 4004. The speed of the processor was 740 kHz taking 60k instructions per second. It had 2300 transistors and 16 pins inside.

Built on a single chip, it was useful for simple arithmetic and logical operations. A control unit was there to understand the instructions from memory and execute the tasks.

Evaluation of Microprocessor

2. Second Generation – 8bit Microprocessor

The **second generation began in 1973** by Intel as the first 8 – bit microprocessor. It was useful for arithmetic and logic operations on 8-bit words. The first processor was 8008 with a clock speed of 500kHz and 50k instructions per second.

Followed by an 8080 microprocessor in 1974 with a speed of 2 MHz and 60k instruction per second. Lastly came the **8085 microprocessor in 1976** having an ability of 769230 instruction per second with 3 MHz speed.

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3.Third Generation – 16bit Microprocessor

The **third generation began with 8086-88 microprocessors in 1978** with 4.77, 8 & 10 MHz speed and 2.5 million instructions per second. Other important inventions were Zilog Z800, and 80286, which came out in 1982 and could read 4 million instructions per second with 68 pins inside.

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4. Fourth Generation – 32bit Microprocessors

Intel was still the leader as many companies came out with **32-bit microprocessors around 1986**. Their clock speed was between 16 MHz to 33 MHz with 275k transistors inside.

One of the first ones was the Intel 80486 microprocessor of 1986 with 16-100MHz clock speed and 1.2 Million transistors with 8 KB of cache memory. Followed by the **PENTIUM microprocessor in 1993** which had 66 MHz clock speed and 8-bit of cache memory.

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5. Fifth Generation – 64bit Microprocessors

Began in 1995, the Pentium processor was one of the first 64-bit processors with 1.2 GHz to 3 GHz clock speed. There were 291 Million transistors and 64kb instruction per second.

Followed by i3, i5, i7 microprocessors in 2007, 2009, 2010 respectively. These were some of the key points of this generation

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