

# Computer Notes

Generations | Devices | Number Systems | Memory

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## Topics:

1. Computer Generations
  2. Input & Output Devices
  3. Number Systems (Binary)
  4. MCQ Practice
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# 1. Computer Generations

## 1st Generation (1940-56) — Technology: Vacuum Tubes

Examples: ENIAC, UNIVAC | Characteristics: Very large, hot, slow

## 2nd Generation (1956-63) — Technology: Transistors

Examples: IBM 7090 | Characteristics: Faster, smaller, cheaper

## 3rd Generation (1964-71) — Technology: Integrated Circuits (ICs)

Examples: IBM 360 | Characteristics: More reliable, faster

## 4th Generation (1971-present) — Technology: Microprocessors (VLSI)

Examples: Intel 4004, Modern PCs | Characteristics: Personal computers possible

## 5th Generation (present-future) — Technology: AI & Parallel Processing

Examples: PARAM, Watson | Characteristics: Artificial Intelligence

# 2. Input & Output Devices

## Q. Common Input Devices?

Ans: Keyboard, Mouse, Scanner, Microphone, Webcam, Joystick, Light pen, Touch screen, Barcode reader, Biometric scanner

## Q. Common Output Devices?

Ans: Monitor (VDU), Printer, Speaker, Projector, Plotter, Headphones

## Q. Types of Printers?

Ans: Impact: Dot Matrix, Daisy Wheel. Non-Impact: Inkjet (home), Laser (office), Thermal (receipt). Plotter (engineering drawings).

# 3. Number Systems

Computers use Binary (base 2). Other systems used in computing: Octal (base 8), Decimal (base 10), Hexadecimal (base 16).

## Q. Binary to Decimal: 1010 = ?

Ans:  $1 \times 8 + 0 \times 4 + 1 \times 2 + 0 \times 1 = 8 + 0 + 2 + 0 = 10$

## Q. Decimal to Binary: 13 = ?

Ans:  $13 = 8 + 4 + 1 = 1101$  in binary

## Q. Why do computers use binary?

Ans: Electronic circuits have two states: ON (1) and OFF (0). Binary maps perfectly to these two states.

# 4. MCQ Practice

## Q. First computer generation used:

- (a) Transistors
- (b) Vacuum Tubes
- (c) ICs
- (d) Microprocessors

**Answer: (b) Vacuum Tubes**

## Q. Binary equivalent of decimal 10:

- (a) 1000
- (b) 1010
- (c) 1100
- (d) 1110

**Answer: (b) 1010**

**Q. Which is an input device?**

- (a) Monitor
- (b) Printer
- (c) Scanner
- (d) Speaker

**Answer: (c) Scanner**

**Q. PARAM is India's:**

- (a) Missile
- (b) Supercomputer
- (c) Satellite
- (d) Space Station

**Answer: (b) Supercomputer**

**Q. Full form of ALU:**

- (a) Arithmetic Logic Unit
- (b) Arithmetic Lateral Unit
- (c) Algebraic Logic Unit
- (d) Automated Logic Unit

**Answer: (a) Arithmetic Logic Unit**