

HISTORY OF ELECTRONICS

Read the text and answer the questions.

In this 21st century, every day we are dealing with the electronic circuits and devices in some or the other forms because computers, transport systems, cell phones, cameras, TV, etc. all have electronic components and devices. Today's world of electronics has made deep inroads in several areas, such as healthcare, medical diagnosis, automobiles, industries, electronics projects etc. and convinced everyone that without electronics, it is really impossible to work.

Electrical engineering is considered to be the parent of electronics. It started in the 18th century, when Franklin gave the explanation to the cause of lighting, which was still a mystery then. Coulomb's theory was the first mathematical expression that defined the electrical charge. Luigi Galvani discovered bio-electricity in his experiment using a frog's leg. Alessandro Volta made the first electric cell.

Another important step was electromagnetism. Then Michel Farady invented some electrical machines like the transformer and electric motors, and he also defined his laws of electrolysis. Another genius, Edison, invented electric bulbs. Tesla invented the induction motor and proved that AC can be more efficient than DC. More inventions and discoveries came: the telephone by Bell, radio waves by Hertz, the radio by Marconi a decade later, etc.

The history of electronics is a story of the twentieth century and three key components: the vacuum tube, the transistor and the integrated circuit. In the early 20th century Sir Ambrose Fleming discovered the vacuum tube and the diode. Einstein proposed his theory of relativity which was a complete revolution for science. The first computers started but they were not very efficient.

However, the real electronics started after the discovery of the transistor effect. Soon after, Integrated Circuits industries were born. Integrated circuits (ICs) drastically changed the electronic circuits' nature as the entire electronic circuit got integrated on a single chip, which resulted in low: cost, size and weight electronic devices. Digital integrated circuits were yet another robust IC development that changed the overall architecture of computers. These ICs were developed with Transistor-transistor logic (TTL), integrated injection logic (I²L) and emitter coupled logic (ECL) technologies. Later these digital ICs employed PMOS, NMOS, and CMOS fabrication design technologies.

All these radical changes in all these components led to the introduction of the first microprocessor, 4004, which was invented by Ted Hoff. Computers improved, grew rapidly and became very popular.

The future seems to be bright, with new fields like quantum communication and bioinformatics developing.

1. Say if the following sentences are true or false according to the text:

	T / F
• Electronics has been used for centuries in the automobile industry.	<input type="text"/>
• Many scientists work hard in electronics.	<input type="text"/>
• Einstein discovered the vacuum tube.	<input type="text"/>
• Integrated circuits were a complete revolution in electronics.	<input type="text"/>
• Computers improved when digital integrated circuits were developed.	<input type="text"/>
• There is still a promising future for electronics in the 21 st century.	<input type="text"/>

2. Fill in the gaps in the chart with scientists and inventions:

	made the first electric cell.
Farady	
	invented the electric bulb.
Tesla	
	invented the telephone.
Marconi	
Hoff	

3. Find words in the text that mean:

• Appliance, gadget (paragraph I)	<input type="text"/>
• Profound (paragraph I)	<input type="text"/>
• Unknown (paragraph II)	<input type="text"/>
• Battery (paragraph II)	<input type="text"/>
• Engine, machine (paragraph III)	<input type="text"/>
• Effective (paragraph IV)	<input type="text"/>

4. Label the following pictures:

