

## Introduction to

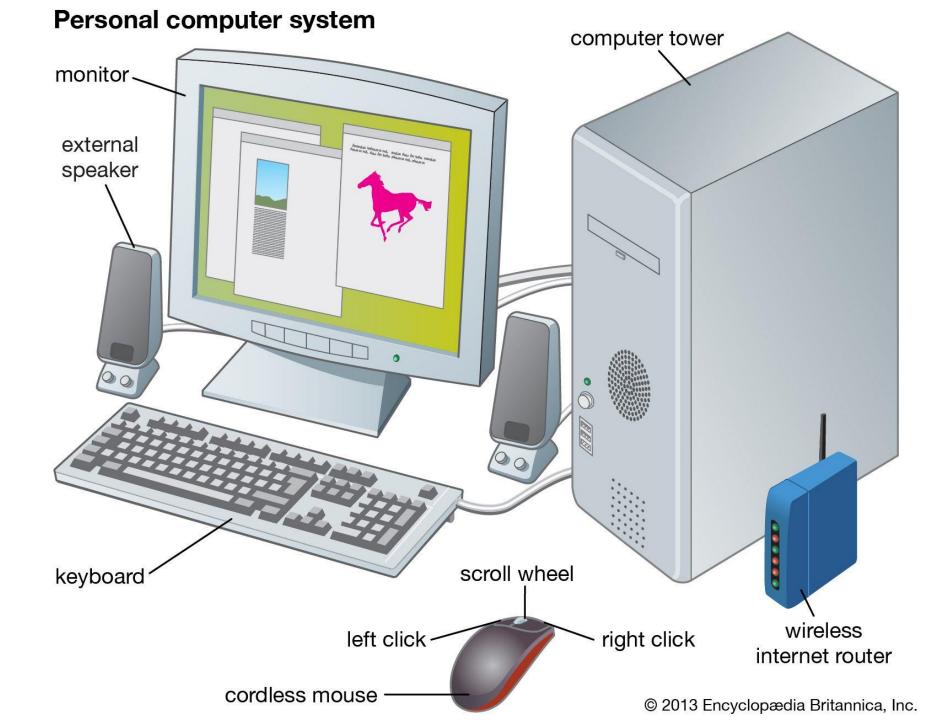
### Theory

### Computer

**OSSSC Junior Assistant and** panchayat executive officer (PEO)



2168 by eZugyAn COMPUTER



#### What is a Computer?

The straightforward meaning of a computer is a machine that can calculate. However, modern computers are not just a calculating device anymore. They can perform a variety of tasks. In simple terms, a computer is a programmable electronic machine used to store, retrieve, and process data.



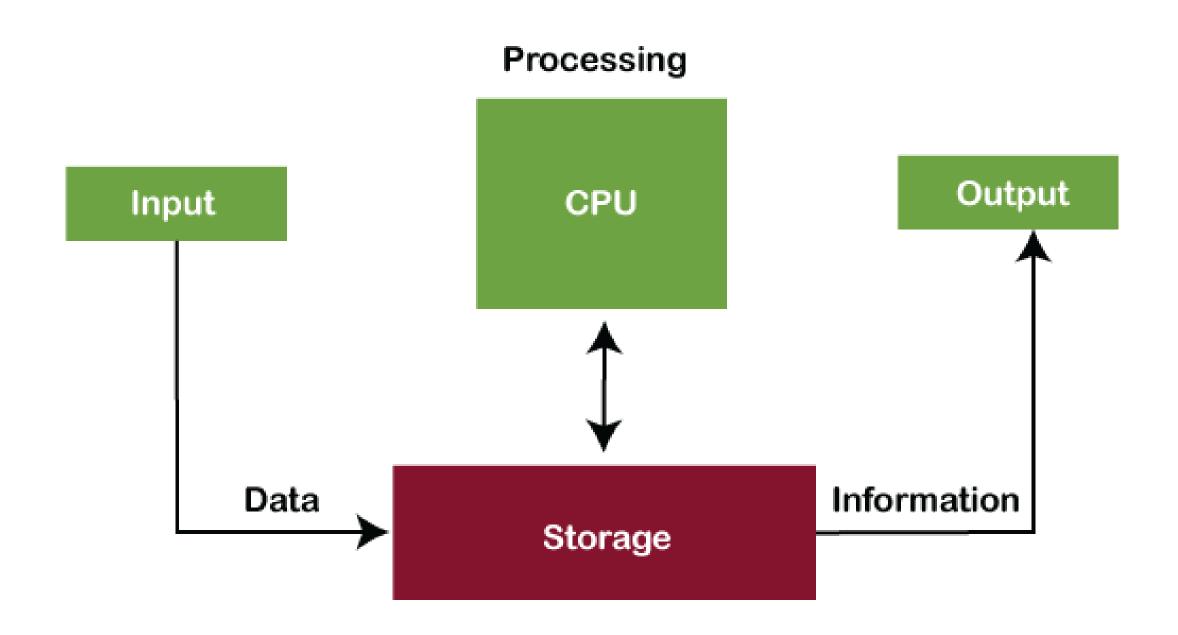
#### Functioning of a Computer

Computer performs four basic functions which are as

follows

- 1. Input
- 2. Processing
- 3. Output
- 4. Storage





#### A Brief History of Computer

- 1. The term 'Computer' was first introduced in 1640 and referred to as 'one who calculates'.
- 2.It was derived from the Latin word 'computare', which meant 'to calculate'.
- 3. In 1897, it was known as the 'calculating machine'.
- 4. Later in 1945, the term 'computer' was introduced as 'programmable digital electronic computer, which is now called a 'computer'.

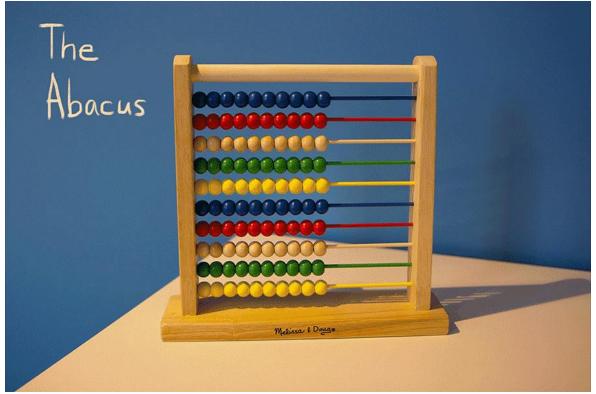
#### A Brief History of Computer

- When the computers were introduced, they were large and could fill an entire room. Some computers were operated using large-sized vacuum tubes.
- In 1833, Charles Babbage (known as the father of the computer) invented an early calculator, which was named as the 'difference engine'.
- Later in 1837, he introduced the first mechanical, general-purpose computer 'Analytical Engine'.
- Over time, computers became powerful in performance and small in size.

#### **History of Computer**

Computer is not the creation of one day, rather it took a long period for the development of modern computer. *History of computer is described in this table.* 

Invention	Inventor	Characteristics	Applications
Abacus 1602	China	<ul> <li>First mechanical calculating device.</li> <li>A horizontal rod represents the one, tens, hundred, etc.</li> </ul>	<ul> <li>Used for addition and subtraction operations.</li> <li>Calculation of square roots can also be performed.</li> </ul>



Napier's Bones <b>1617</b>	John Napier (Scotland)	<ul> <li>Three dimensional structure.</li> <li>Holding numbers from 0 to 9 only.</li> <li>Represent graphical structure of calculating result.</li> </ul>	<ul> <li>Perform multiplication on numbers.</li> <li>Technology used for calculation called Rabdologia.</li> </ul>
Pascaline <b>1642</b>	Blaise Pascal (France)	<ul> <li>First mechanical adding machine.</li> <li>It was structured like rectangular box, with eight disc (represent number of units).</li> </ul>	<ul> <li>Perform addition and subtraction of two numbers.</li> <li>Mainly designed with regard to the pressure of liquid.</li> </ul>
Jacquard's Loom 1801	Joseph Marie Jacquard (France)	<ul> <li>Mainly weaved a silk based pattern.</li> <li>Used punched card for the sequence of operation.</li> </ul>	Simplified the process of Textiles.
Analytical Engine 1837	Charles Babbage (Father of Computer) (London)	<ul> <li>First general-purpose computer.</li> <li>Stored program in the form of 'pegs' also called barrels.</li> </ul>	It was a decimal machine used sign and magnitude for representation of a number.



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A new beginning...

classes are going to start from 23rd March (thursday)

General Knowledge and **Current Affairs** 

Computer

**Mathematics** and **Odia Grammar** 

**English** 

Reasoning













Adyasha Shakti Ma'am Sir

Sir

Sagar

Shakti Sir

Subhasis Sarangi

Payal Ma'am

**Swagat** Sir

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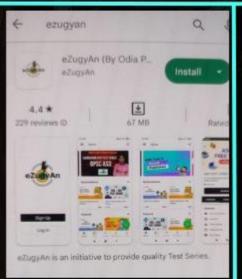




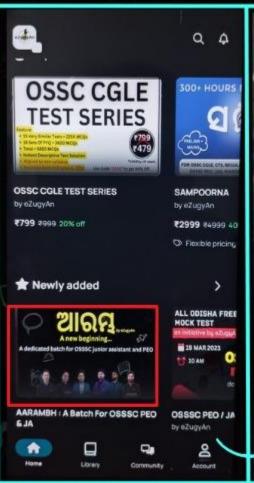


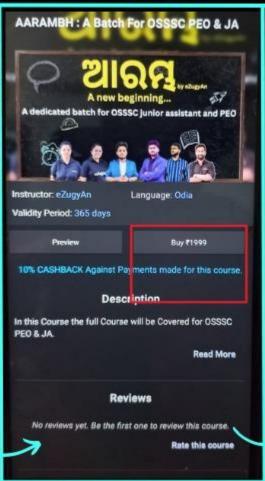
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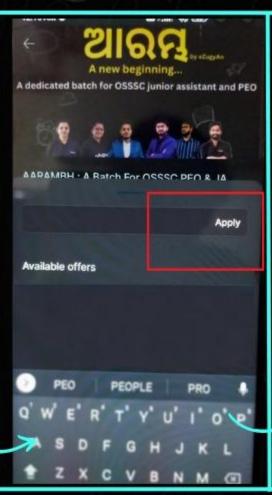
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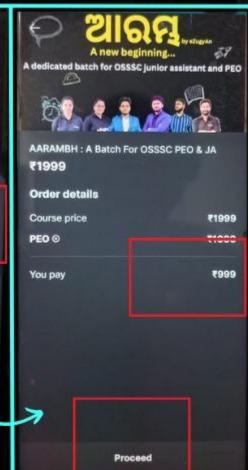


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#### **ECONOMICS CLASS SCHEDULE**

**TOTAL CLASS DURATION: 20 HOURS** 

PER CLASS DURATION: 60 MIN

**TOTAL LIVE SESSIONS: - 6** 

**TOTAL RECORDED SESSIONS: - 14** 

Class Name	Day/Class	Date	LIVE/ RECORDED
Basics Of Economy	Day 1		RECORDED
National income & aggregates	Day 2		RECORDED
Demand & Supply (their graphs also)	Day 3		RECORDED
DAY 1,2,3 MCQ SESSION	Day 4		LIVE

**CONTACT NO 9668558112** 

DAY 1,2,3 MCQ SESSION	Day 4	LIVE	
Foreign exchange	Day 5	RECORDED	
Economic development	Day 6	RECORDED	
RBI and other bank's history (Their coagulation, formation year, headquarters, functions, etc)	Day 7(Part 1)	RECORDED	
RBI and other bank's history (Their coagulation, formation year, headquarters, functions, etc)	Day 8 (Part 2)	RECORDED	
DAY 5,6,7,8 MCQ SESSION	DAY 9	LIVE	CONTACT NO 9668558112

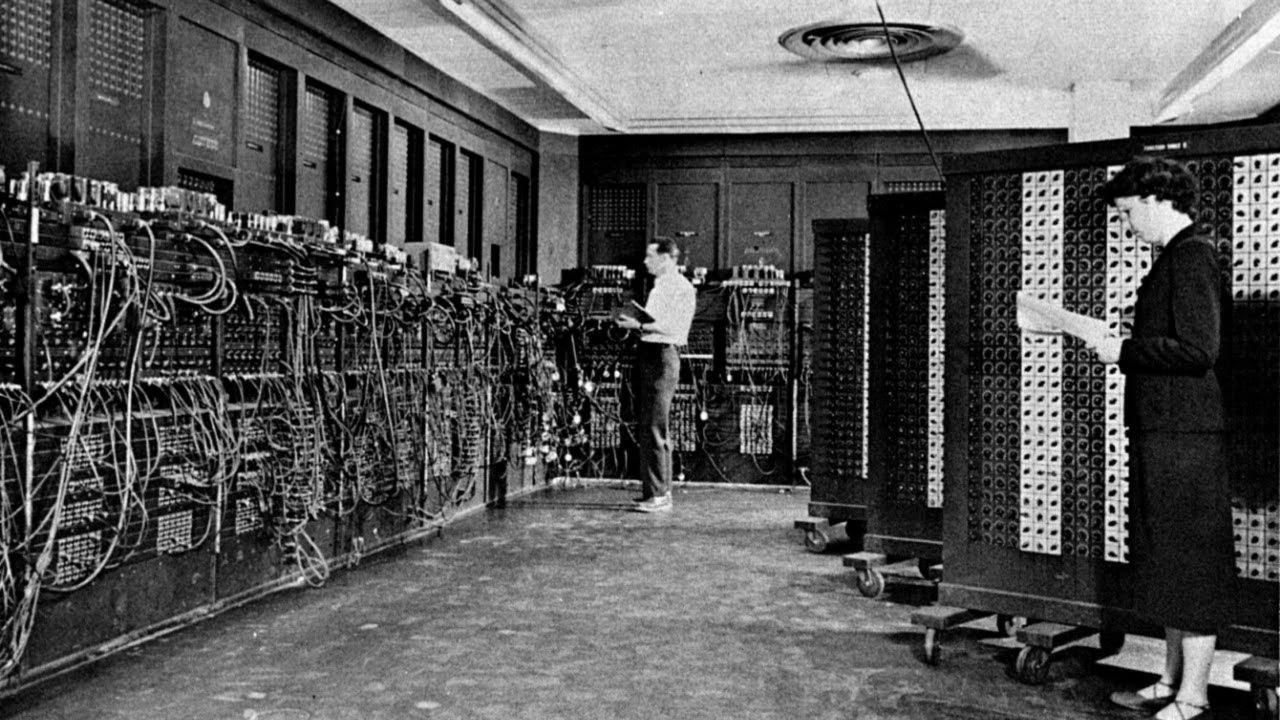
#### **ENGLISH CLASS SCHEDULE**

NOS OF HOURS: 30 NOS OF CLASSES: 30

TOPICS	NOS OF DAYS	DATE	LIVE/ RECORDED
THE SENTENCE	DAY 1		RECORDED
THE NOUN	DAY 2,3		RECORDED
THE PRONOUN	DAY 4		RECORDED
MCQ OF DAY (1,2,3,4)	DAY 5		LIVE
THE ADJECTIVES	DAY 6,7		RECORDED
THE VERB	DAY 8		RECORDED
THE ADVERB	DAY 9, 10		RECORDED
MCQ OF DAY	DAY 11		LIVE
(6,7,8,9,10)			
THE PREPOSITION	DAY 12,13		RECORDED
THE CONJUNCTION	DAY 14		RECORDED
THE INTERJECTION	DAY 15		RECORDED
MCQ OF DAY (12,13,14,15)	DAY 16		LIVE
THE TENSE	DAY 17,18		RECORDED
THE ARTICLE	DAY 19		RECORDED
THE MODALS	DAY 20		RECORDED
MCQ OF DAY (17,18,19,20)	DAY 21		LIVE
ACTIVE PASSIVE	DAY 22		RECORDED

MCQ OF DAY (12,13,14,15)	DAY 16	LIVE
THE TENSE	DAY 17,18	RECORDED
THE ARTICLE	DAY 19	RECORDED
THE MODALS	DAY 20	RECORDED
MCQ OF DAY (17,18,19,20)	DAY 21	LIVE
ACTIVE PASSIVE	DAY 22	RECORDED
DIRECT INDIRECT	DAY 23	RECORDED
MCQ OF DAY (22,23)	DAY 24	LIVE
ERROR DETECTION	DAY 25	LIVE

FILLERS	DAY 25	LIVE
SYNONYMS AND ANTONYMS	DAY 26	RECORDED
IDIOMS AND PHRASES	DAY 27	RECORDED
ONE WORD SUBSTITUTION	DAY 28	RECORDED
PARA ZUMBLING	DAY 29	RECORDED
READING COMPREHENSION	DAY 30	LIVE



#### Features of Computer

The key features of computer are as follows

- 1. **Speed** The computer can process data very fast at the rate of millions of instructions per second.
- 2. **Accuracy** Computers provide a high degree of accuracy. They respond to the user as per the input instructions.
- Storage Capacity Computers are capable to store huge amount of data which depends on the capacity of hard disk.
- 4. **Versatility** Computers can do different types of work simultaneously. They can perform multiple tasks at a same time.



- 5. **Automation** Once the instruction to do any work is given to the computer, the computer does its work automatically by itself.
- 6. **Diligence** Unlike human beings, a computer is free from monotony, tiredness, lack of concentration, etc. and can work for hours without creating any errors.
- 7. **Secrecy** Leakage of information is reduced by creating login system with password protection.
- 8. Reliability Computers are more reliable than human beings. Computers always produce exact results. The possibility of errors occur only if the input is wrong, i.e. the computers never make mistakes of their own accord.



#### **Terms Related to Computer**

- 1. Hardware It is the collection of physical elements that constitutes a computer system. It is a comprehensive term for all the physical parts of a computer. e.g. Display screens, discs, keyboards, etc.
- 2. Software It is a set of programs and procedures. Software tells the hardware what to do and how to accomplish a task. e.g. Web browsers, word processors, etc.
- **3. Data** Unprocessed raw facts and figures, like numbers, text on piece of paper, are known as data.
- 4. Information When data is processed, organised, structured or presented in a given context so as to be useful, then it is called information.
- **5. Instruction** It is a command given to a computer in the computer language by the user.
- **6. Program** It is a set of instructions given to a computer in order to perform some task.

#### HARDWARE AND SOFTWARE



#### Generations of Computer

There are five generations of the computer, which can be classified as below:

**First Generation (1946 - 1959)**: During the first generation, computers were based on electronic valves (Vacuum Tubes). Some popular computers of first-generation are ENIAC, EDVAC, UNIVAC, etc.

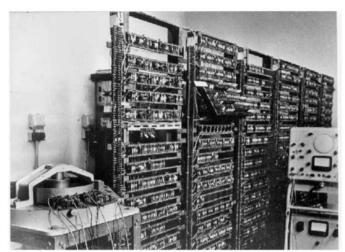
**Second Generation (1959 - 1965)**: During the second generation, computers were based on Transistors. Some popular computers of second-generation are IBM 1400, IBM 1620, IBM 7000 series, etc.

**Third Generation (1965 - 1971)**: During the third generation, computers were based on **Integrated Circuits (ICs)**. Some popular computers of the third generation are IBM 360, IBM 370, PDP, etc.

**Fourth Generation (1971 - 1980)**: During the fourth generation, computers were based on **very large scale integrated (VLSI)** circuits. Some popular computers of fourth-generation are STAR 1000, CRAY-1, CRAY-X-MP, DEC 10, etc.

**Fifth Generation (1980 - Present)**: The fifth generation is still ongoing. The computers are based on multiple technologies, such as **ultra large scale integration (ULSI)**, **artificial intelligence (AI)**, and parallel processing hardware. The fifth generation of computers includes Desktop, Laptop, NoteBook, etc.

### Generation Of Computers 1st To 5th



First Generation 1946-1959



Second Generation 1959-1965



Third Generation 1965-1971



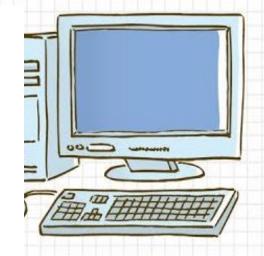
Fourth Generation 1971-1980



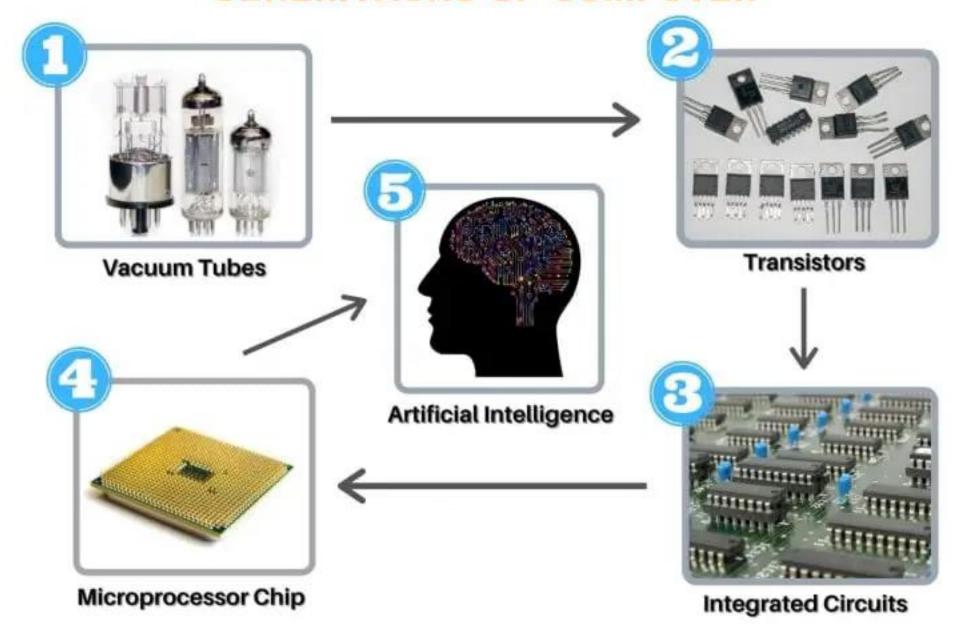
Fifth Generation 1980- Present

## Generation of Computers

Generation	Core Element	
1st Gen	Vacuum Tubes	
2 <sup>nd</sup> Gen	Transistors	
3 <sup>rd</sup> Gen	ICs	
4 <sup>th</sup> Gen	VLSI	
5 <sup>th</sup> Gen	ULSI	



#### **GENERATIONS OF COMPUTER**



#### **Quick Revision**

- 1. Father of Computer → Charles Babbage
- 2. Father of Modern Computer Science -> Alan Tuning
- 3. First Non-programmable Electronic Digital Computer → Atanasoff Berry Computer (ABC)
- 4. First General Purpose Electronic Digital Computer → Electronic Numerical Integrator and Calculator (ENIAC)
- 5. First Micro Processor → INTEL 4004
- **6. First Commercially Available Computer \rightarrow\$** Universal Automatic Computer

#### **Important Mnemonic**

#### Electronic Numerical Integrator and Calculator – ENIAC

ENIAC was the first electronic computer used for general purposes, such as solving numerical problems.

It was invented by J. Presper Eckert and John Mauchly.

#### <u>Electronic Discrete Variable Automatic Computer – EDVAC</u>

EDVAC was the successor of ENIAC. In this computer, Binary numbers were used for arithmetic operations and the internal storage of instructions were also written in digital forms.

#### Electronic Delay Storage Automatic Calculator - EDSAC

EDSAC was the first practical general-purpose stored-program electronic computer. It was built according to the von Neumann machine principles.

#### <u>Universal Automatic Computer - UNIVAC</u>

UNIVAC was the first commercially available computer. It was made by the Eckert-Mauchly Computer Company. It represents the birth of the modern computers.

A term in computer terminology is a change in technology a computer is/was being used.

- a) development
- b) generation
- c) advancement
- d) growth

The fourth generation was based on integrated circuits.

- a) True
- b) False

\_\_\_\_ generation of computer started with using vacuum tubes as the basic components.

- a) 1st
- **b) 2nd**
- c) 3rd
- d) 4th

#### What was the name of first computer designed by Charlse Babbage?

Analytical Engine

Difference Engine

Colossus

ENIAC

#### EDSAC stands for \_\_\_\_\_.

Electronic Delay Storage Automatic Calculator Electronic Delay Storage Automatic Computer Electronic Data Storage Automatic Calculator Electronic Data Storage Automatic Computer

#### EDSAC - Electronic Delay Storage Automatic Calculator.



The National Museum of Computing

https://www.tnmoc.org > edsac

:

#### EDSAC - Electronic Delay Storage Automatic Calculator

#### EDVAC stands for \_\_\_\_\_.

Electronic Discrete Variable Automatic Calculator

Electronic Discrete Variable Automatic Computer

Electronic Data Variable Automatic Calculator

Electronic Data Variable Automatic Computer

EDVAC (Electronic Discrete Variable Automatic Computer) was **one of the earliest electronic computers**. It was built by Moore School of Electrical
Engineering, Pennsylvania. Along with ORDVAC, it was a successor to the
ENIAC.



EDVAC - Wikipedia



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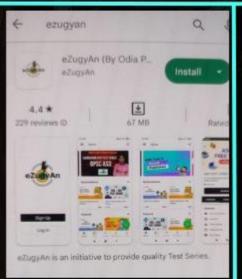
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