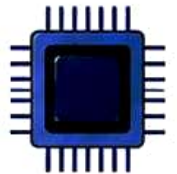
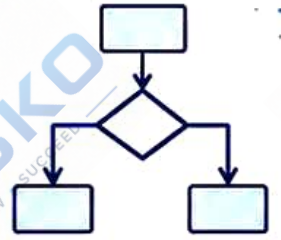


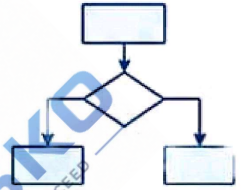
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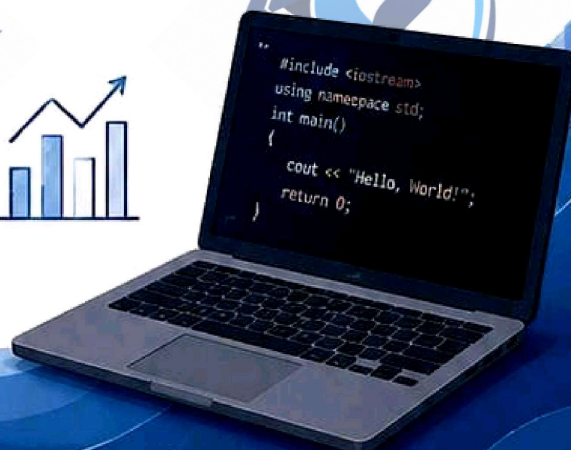
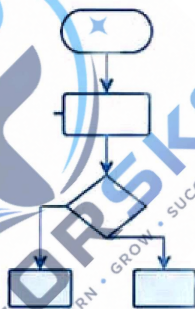
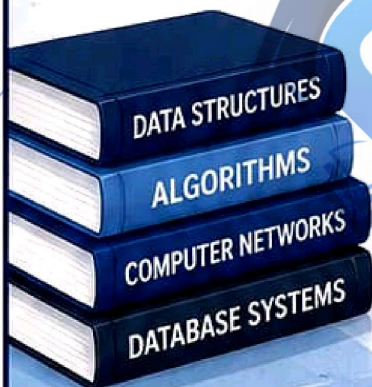
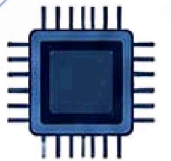
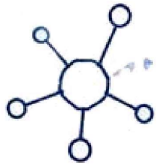


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Unit-I



Unit-1

Fundamentals of Computers.

A) Fill in the blanks.

1. Computer is an advance electronic device that takes input process it and gives the desired output.
2. Long form of CPU Central Processing Unit.
3. Output is the processed data given by computer after data processing.
4. Long form of CAD Computer Aided Design.
5. Long form of CAM Computer Aided Manufac-turing.
6. ABACUS was the first mechanical calculat-or device.
7. Slide Rule was delevoped by an English mathematician Edmund Gunter in 16th century.
8. Pascal's first mechanical calculator was developed by Blaise Pascal.
9. Long form of ALU Arithmetic Logic Unit.
10. The first generation of computers used vacuum tubes.

Unit - I

Introduction to Computer

B) Short Type (At least 8).

1. What is Computer?

Ans:- Computer is an advanced electronic devices which is used to solve arithmetic and logical operations at a very high speed. It has memory unit to store the data, program, results etc. Once you have stored the data, program in computer memory then you can recall or retrieved the as and when required.

2. What is Hardware Technology?

Ans:- Hardware technology refers to the physical components of electronic devices and computer systems, such as processors, memory, storage and networking equipments.

3. What is ABACUS?

Ans:- ABACUS was the first mechanical calculating machine device for counting of large numbers. It evolved between 2700-2300 B.C. It consist of bars in horizontal position on which sets of beads are inserted. The horizontal bars have 10 beads each, representing units, tens, hundreds, etc.

7. What is software Technology?

Ans:- Software technology refers to the tools, platforms, and methodologies used to design, develop, test, and maintain software systems including:- Operating Systems, Application, AI, Cybersecurity etc.

8. What is Storage Unit?

Ans:- [The storage unit of the computer holds data and instructions that are entered through the input unit, before they are processed. It preserves the intermediate and final result before these are sent to the output devices.

9. What is control Unit?

Ans:- ~~The control unit is integral part of CPU and its typically located on the same chip~~
Control unit act as a brain of computer. It control all other units in computer. The control unit instruct the input unit where to store data after resiving it from the users.

4. What is Punch Card System?

Ans:- The punch card system was developed by Jac guard to control the power loom in 1801. He invented the punched card reader that could recognize the presence of hole in the punched card as binary one and the absence of the hole as binary zero.

5. What is CPU?

Ans:- [A Central Processing Unit is the most important component of a computer system. A CPU performs data input/output, processing and storage functions for a computer system.] All types of data processing operations from simple arithmetic to complex tasks and all the important functions of computer are performed by the CPU.

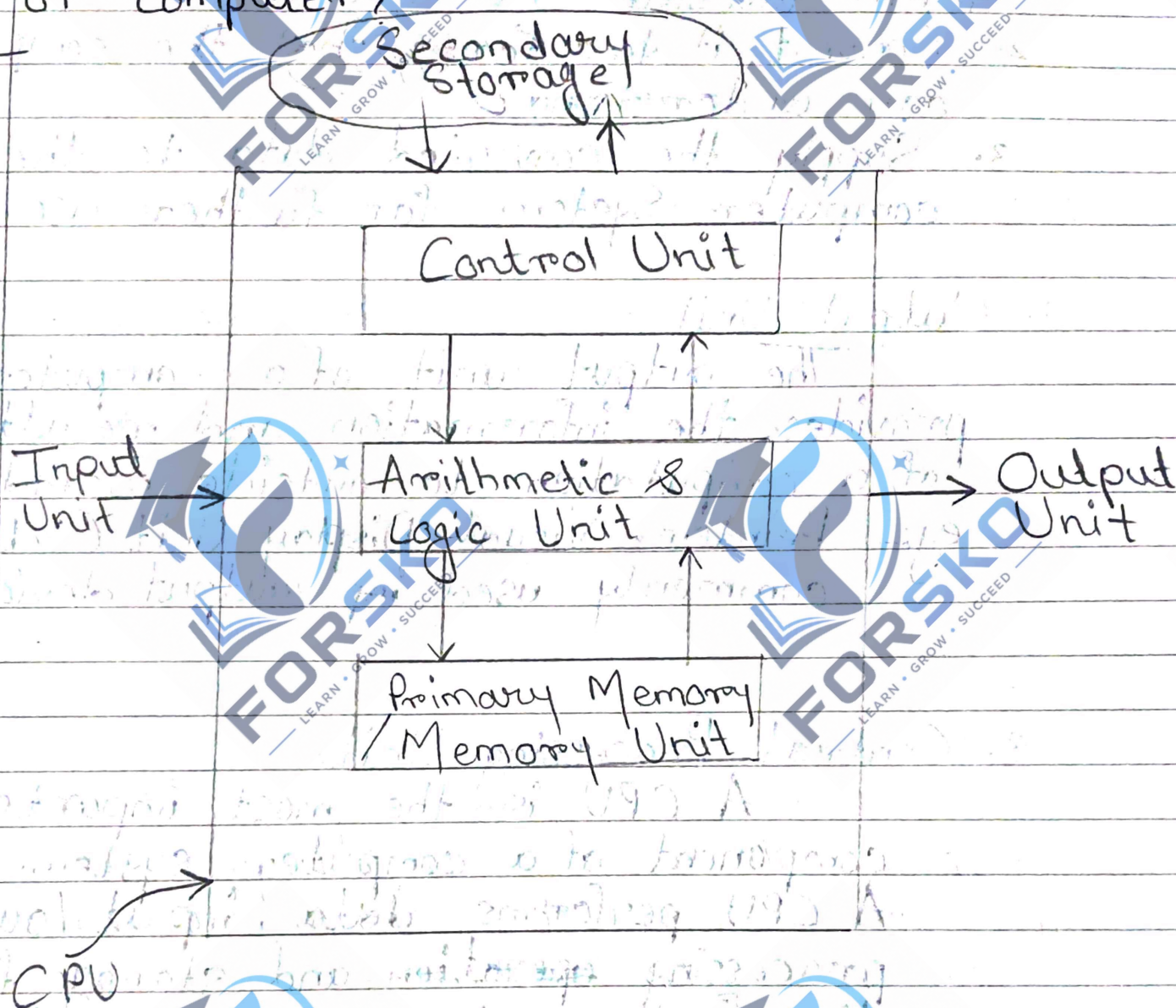
6. What is Input Unit? Accept

Ans:- The input unit received data outside the world converts it to a form that the computer can understand. Supply the converted data to the computer system for further processing.

c) Long Type

1. Draw and Explain the block diagram of Computer?

Ans:-



1. Input Unit:-

Computer needs to receive data and instruction to solve problems.

The input unit consists of one or more input devices.

All input devices performs the following functions.

1. Accept the data and instructions from outside the world.
2. Convert it to a form that the computer can understand.
3. Supply the converted data to the computer system for further use.

2. Output Unit.

The output unit of a computer provides the information and results of a computation to outside world.
eg:- Printer, Visual Display Unit (VDU) commonly used as output devices.

3. Central Processing Unit:

A CPU is the most important component of a computer system.

A CPU performs data, input/output processing operation and storage function for complex computer system.

All types of data processing and operation from simple arithmetic and complex tasks and all the important function can perform by the CPU.

CPU consist of 3 major units, which are

- ~ Memory Unit or Storage Unit
- ~ ALU (Arithmetic Logic Unit)
- ~ Control Unit (CU).

1. Memory and Storage Unit

The storage unit of computer holds the data and instruction that entered through the input unit before they are processed.

The Storage unit divided into two categories

1. Primary Memory:-

The primary memory is temporary memory can hold the data for few milliseconds depends on the program execution requirements.

2. Secondary Memory:-

It stores the data, several programs, documents, data base etc.

The program that you run on the computer is first transfer to the primary memory before they actual run. whenever the result save again they got stored in secondary storage.

2. Arithmetic Logical Unit (ALU):-

All calculations are performed in the arithmetic logic unit. The ALU performs basic calculation like addition, subtraction, multiplication, division, etc. and does logic operation viz, $>$, $<$, $=$ etc.

3. Control unit:-

Control unit act as a brain of computer. It control all other units in the computer. The control unit is generally referred as the central nervous system of the computer that control and synchronizes its working.

✓ 2. Explain the characteristics of computer.

Ans:-

1. Speed:-

A computer can process data very fast. At the rate of millions of instructions per second. Some calculation take hours and days to calculate and computer can calculate in seconds.

2. Accuracy:-

Computer can perform calculations with 100% accurate. Errors may occur due to data input inconsistency or inaccurate. Computer provides high degree of accuracy.

3. Diligence:-

When used for longer period of time, computer does not get tired. It can perform long and complex calculation at the same speed and accuracy from start till the end.

4. Automation:-

Computer can automate the tasks which can save time and improve efficiency. Automation can be done by software programs or hardware devices.

5. Reliability:-

A computer is reliable as it gives consistent results for similar set of data.

✓ 3. Explain the Generation of Computer.
Ans:-

i) First Generation of Computer.
(1940-1956)

In first generation of computer used ~~vacuum~~ vacuum tubes for circuitry and magnetic drums for storage.

This computer is large room sized.

The first generation of computer could solve one problem at a time.

eg:- ENIAC, UNIVAC1.

ii) Second Generation of Computer.
(1956-1963)

In second generation of computer replace vacuum tubes by transistors.

Transistor allowed computer to become smaller, faster and more reliable.

computers. Its use magnetic core

technology for primary memory.

The instructions were written using the assembly language.

Eg:- PDP-8, IBM 1401.

iii) Third Generation of Computer.

(1964 to 1971).

The third generation of computer used Integrated Circuit (IC) chips.

In IC multiple transistors are placed on a silicon chip. In this generation we introduced to operating system.

Even more smaller, faster and more reliable computers as compare to second generation.

eg:- IBM system 370, PDP-11

iv) Fourth Generation of Computer

(1971 to present)

They use the Large-Scale Integration (LSI) and the Very Large-Scale Integration (VLSI) technology. Thousands of transistors are integrated on a small silicon chip using LSI technology.

VLSI allows thousands of silicon chip computer component of silicon chip to be integrated on the chips.

The personal computer introduced in this generation. In this generation we introduced to high-level programming

eg:- Apple II, Intel 4004.

iv) Fifth Generation of Computers.
(present and next).

The goal of fifth generation computing is to develop computers that are capable of learning and self-organization.

This generation computers are based on Artificial Intelligence (AI). Then try to simulate the human way of thinking and reasoning. AI includes areas like Expert system (ES), Natural Language Processing (NLP), speech recognition, voice recognition, robotics, etc.

11. What are the uses of computer.
Ans:-

Uses of Computer.

1. Medicine:-

Computerized system are know widely use in monitoring patients data such as pulse rate, blood pressure etc. Computer is also widely used in medical research.

2. Education:-

The use of computer in education increases day by day. The student are benifited by using computer for the information searching, preparation research and development. Computer can also used for editing, for making projects, for creative skills.

3. Business:-

Computer used to record keeping, budgets, reports, inventory payroll, accounts are all the areas of business and industry where computers are used to a great extend.

4. Advertising:-

Computer is a powerful advertising media. Advertisement can be displayed on different websites, E-mails can be sent and reviews of the product by different customers can be posted.

5. Government:-

The government uses computers to manage its own operations and also for e-governance. The websites of different government departments provide information to the users.

6. Entertainment:-

Computer can be used for entertainment like watching shows, web-series, playing games, and watching movies.

7. Home uses:-

Computerized system used for smart home devices like lock, smart tv, smart home devices like google assistant.



✓ Q. Explain the types of computers.
Ans:-

Computer can be classified into several types based on their size, functions, and purpose.

1. Personal Computers:-

A small digital device designed for use by a single individual. It is a versatile tool that has become an essential part of our daily life.

eg:- Desktop computer, Laptops, Table computer

2. Workstation:-

A workstation is like a personal computer but it has a more powerful microprocessor and a higher quality monitor. It is a powerful single-user computer.

3.

3. Minicomputer:-

A multi-user computer capable of supporting from 1 to 10 to hundreds of users simultaneously.

3. Minicomputer :-

It is a type of computer that is smaller and less powerful than miniframe computer, but larger and more powerful than (PCs). Minicomputer supports multiusers making them to small to medium sized business.

4. Mainframe :-

A mainframe computer is a high-performance computer designed to process large amount of data and support thousands of user simultaneously.

5. Supercomputer :-

A extremely fast computer that can performs hundreds of millions of instructions per second.