



Shri Shankaracharya Institute of Professional Management & Technology, Raipur

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Student Name: V OM SAI NAGESHWAR SHARMA

Roll No.:

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Enrollment No.:

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Course: B.Tech **Semester:** 2nd

Branch: COMPUTER SCIENCE AND ENGINEERING

Subject Name: FUNDAMENTALS OF COMPUTER

Subject Code:

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Signature.....

Unit-1
Part -1

Q1>

Ans A device driver in software provides a programming interface to control and manage specific lower level interface that is often linked to a specific type of hardware, or other low-level service. In the case of hardware the specific subclass of drivers controlling physical or virtual hardware devices are known as device drivers.

Ex: A client library for connecting to a database is often known as a driver, for example the MySQL, native driver for PHP.

Q2>

Ans:

Q2

Ay → Hardware

- 1.) As Hardware are physical electronic devices, we can see and touch hardware.
- 2.) It is manufactured.
- 3.) Hardware can not perform any task without software.
- 4.) Hardware is not affected by computer viruses.

Software

- 1.) We can see and also use the software but can't actually touch them.
- 2.) It is developed and engineered.
- 3.) Software can not be executed without hardware.
- 4.) Software is affected by computer viruses.

Q3

Ay ⇒ A plug and play (PnP) device or computer bus is one with a specification that facilitates the discovery of a hardware component in a system without the need for physical device configuration or user intervention in resolving resource conflicts.

The term "plug and play" has since been expanded to a wide variety of applications to which the same lack of user setup applies.

- Ex:
- ① Computer monitor.
 - ② External hard drive.
 - ③ Gamepad or joystick.
 - ④ Keyboard.

Q4)

Ans

Cache memory: It is an ~~exte~~ extremely fast memory type that acts as a buffer between RAM and the CPU. It holds frequently requested data and instructions so that they are immediately available to the CPU when needed.

Its Importance: It is used to reduce the average time to access data from the main memory.

Part - 2

Q1>

Ans:→ There are Five generations of computer.

* First Generation:

It was invented in 1946 - 1959 is the period of first generation computer. J. P. Eckert and J. W. Mauchly invented the first generation computer was successfully invented. called ENIAC, ENIAC stands for Electronic Numeric Integrated and calculated.

eg: ENIAC, EDVAC, UNIVAC.

* Second Generation:

- 1959 - 1965 is the period of second generation computer.
- Second generation computers were based on transistors instead of vacuum tubes.

For ex: (i) Honey well 400, (ii) IBM 7094,
(iii) CDC 1604.

★ Third Generation:

- (i) 1965 - 1971 is the period of third-generation computers.
- (ii) ~~Faster~~ These computers were based on integrated circuit.
- (iii) IC was invented by Robert Noyce and Jack Kilby in 1958 - 1959.
- (iv) IC was a single component containing no. of transistors.

Ex: PDP-8, PDP-11, ICL 2900.

★ Fourth Generation:

- (i) 1971 - 1980 is the period of fourth generation computer.
- (ii) This technology is based on microprocessor.
- (iii) A microprocessor is used in a computer for any logical and arithmetic function to be performed in any program.

Ex: IBM 4341, DEC10, PDP11.

★ Fifth Generation:

- (i) The period of fifth generation in 1980 onwards.
- (ii) This generation is based on Artificial Intelligence.
Ex: Desktop, Laptop, Notebook.

Q5

Sol/Ans → Input Devices: A device that can be used to insert data into a computer system is called as input device.

- (i) Keyboard - helps in putting the data to the computer. It is of two sizes 84 keys and 101/102 keys, but now 104 and 108 keys keyboard is also available for windows and internet.
- (ii) Mouse: It is a cursor control device. It is a small palm device. It has a ball at its base which senses the movement of mouse and sends corresponding signals to CPU on pressing buttons.

(iii) scanner: A device which works more like a photocopy machine. It is used when same information is available on a paper and it is to be transferred to the hard disk disc of the computer for further manipulation.

(iv) Joystick: It is also an inputting device, which is used to move cursor position on a monitor screen. It is a stick having a spherical ball at its both lower and upper ends. The joystick is used in computer Aided Designing (CAD) and playing computer games.

Q4>

Ans → A program written in high-level language is called a source code. To convert the source code into machine code, translators are needed.

It also detects and reports the error during translation.

The different types of translator are as follows:

- * Compiler: It is a translator which is used to convert programs in high-level language to low-level language. It translates the entire program and also reports the errors in source program encountered during the translation.
eg: Microsoft visual studio, GNU compiler collection (GCC), Common Business oriented language (COBOL).
- * Interpreter: It is a translator which is used to convert programs in high-level language to low-level language. Interpreter translators translates line by line and reports the error once it encountered during the translation process. It directly executes the operations specified in the source program when the input is given by the user. It gives better error diagnostic than a compiler.
eg: OCaml, List processing (Lisp), Python.

★ Assembler: It is a translator used to translate assembly language to machine language. It is like a compiler for the ~~assent~~ assembly language but interactive like an interpreter. Assembly language is difficult to understand as it is a low-level programming language. An assembler translates a low-level language, an assembly language, to an even lower-level language, which is the machine code. The machine code can be directly understood by the CPU.

Eg: Fortran Assembly program (FAP),
Macro Assembly Program (MAP),
Symbolic optimal Assembly
program (SOAP).

Q3

Ans (1) CD → A compact Disc, also called CD are small plastic discs which store and retrieve computer data or music using light. CD replaced the floppy discs because they were faster and could hold more information. CD's were invented by both philips and sony at the same time, but not together. Sony and philips did work together to create a standard format and the technology to read CD's in 1982. CDs can hold up to 700mb. worth of data, which is about 80 minutes of music. Mini CDs were also made for special programs like drivers. CD that have computer information on them are called CD-ROMs.

3) Primary Memory: The primary memory is also known as internal memory, and this is accessible by the processor directly. The memory includes

- i) main (RAM and ROM).
- ii) cache memory.

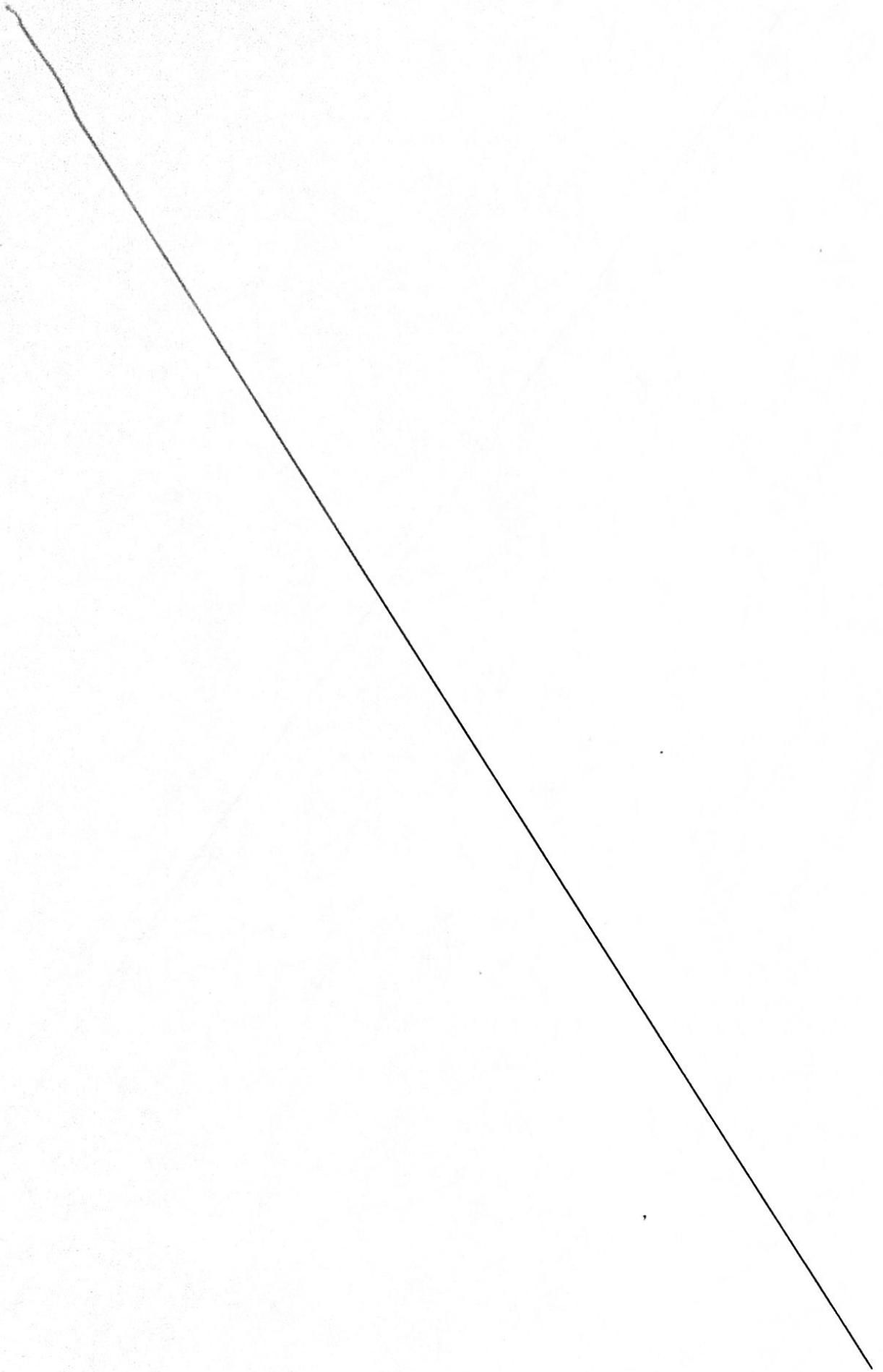
i) Main Memory :-

(a) ~~for~~ RAM: (Random Access Memory) RAM is one of the most important components in determining your system's performance. RAM gives applications a place to store and access data on a short term basis. RAM is a volatile memory.

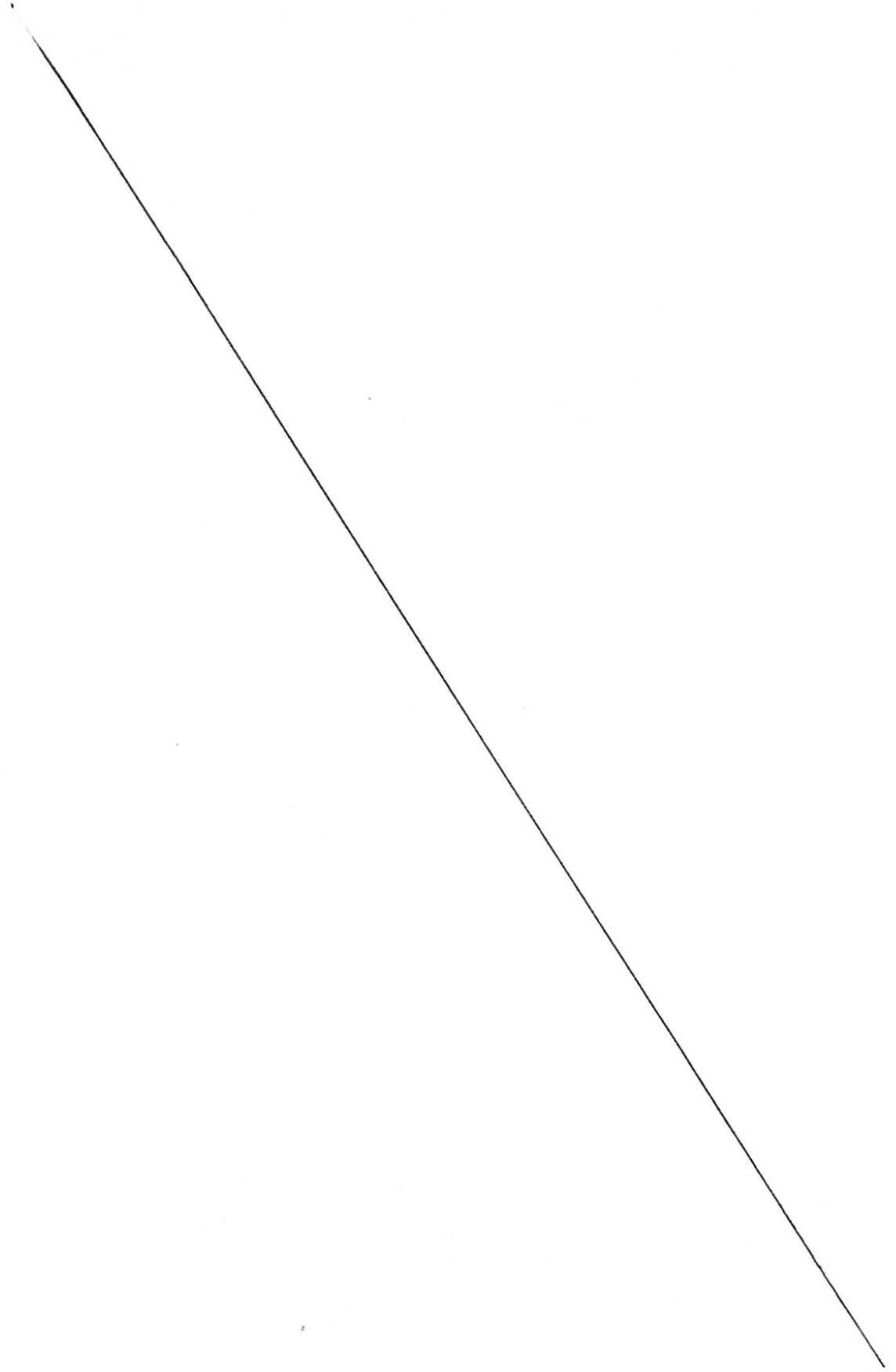
(b) ROM (Read Only Memory): ROM is a computer memory chip combining containing permanent or semi-permanent data unlike RAM, ROM is non-volatile, even after you turn off your computer the contents of ROM will remain.

2.) Cache Memory: It is an extremely fast memory type that acts as buffer between RAM and the CPU. It holds frequently required data and instruction so that they are immediately available to the CPU when needed.

X



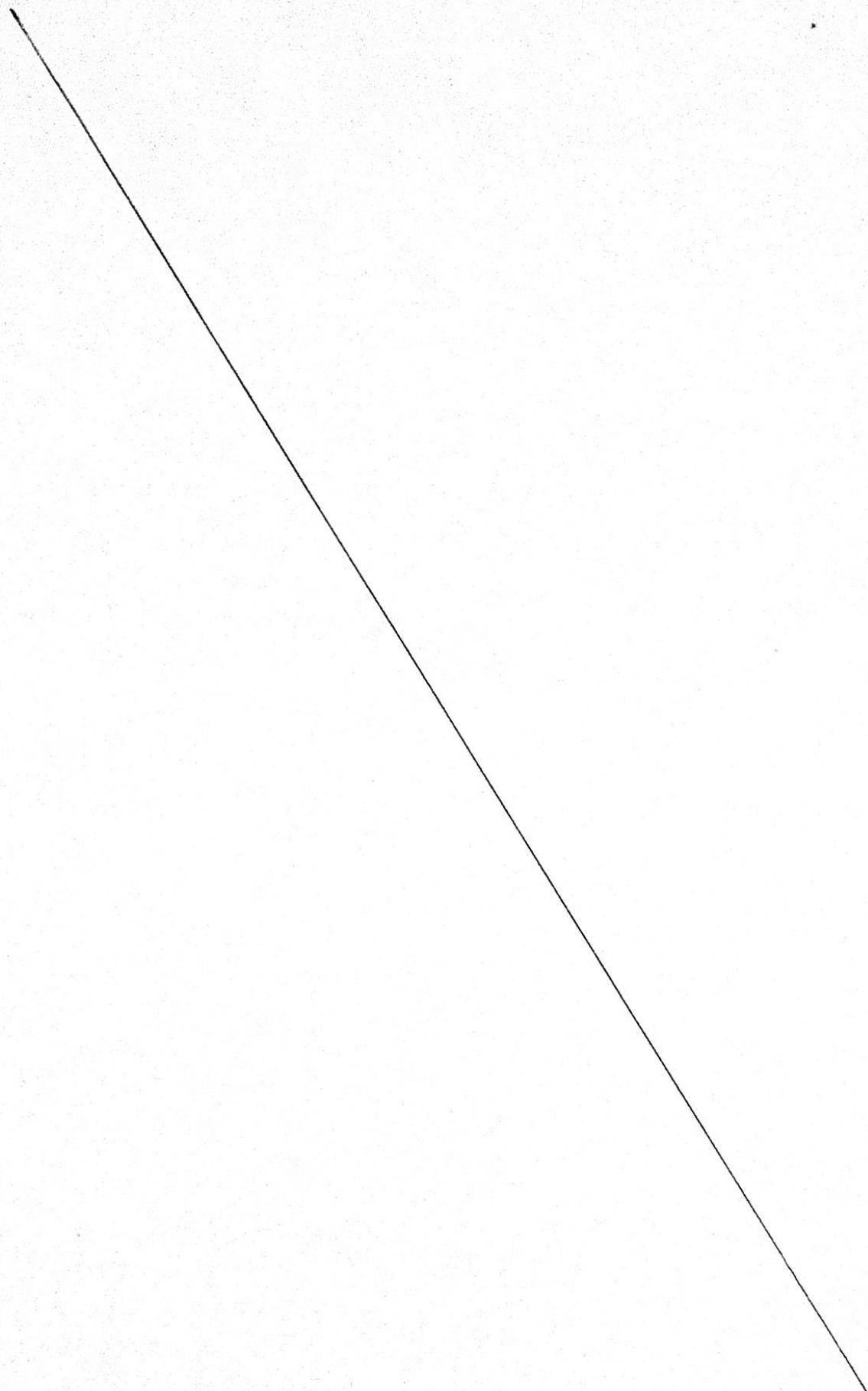
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