Q. * Trap:- signal generated by the CPU hardware called trap

any minor problem devices & I/o transfer can help in many ways.
Either for transist region such as
- network become overloaded
- Discontroller become in detective.

ii) O.S. can effectively compensate for transiant failures
e.g. Read() failure, results in read retry. & network send() failure results in resend().

Q. Define:- polling?

"polling is simplest way for an I/o device to communicate with processor called polling".

OR.

"The process of periodically checking the status of device to see if it is time for next I/o operation

Q. Q. what is interrupt? & explain interrupt life cycle with example

→

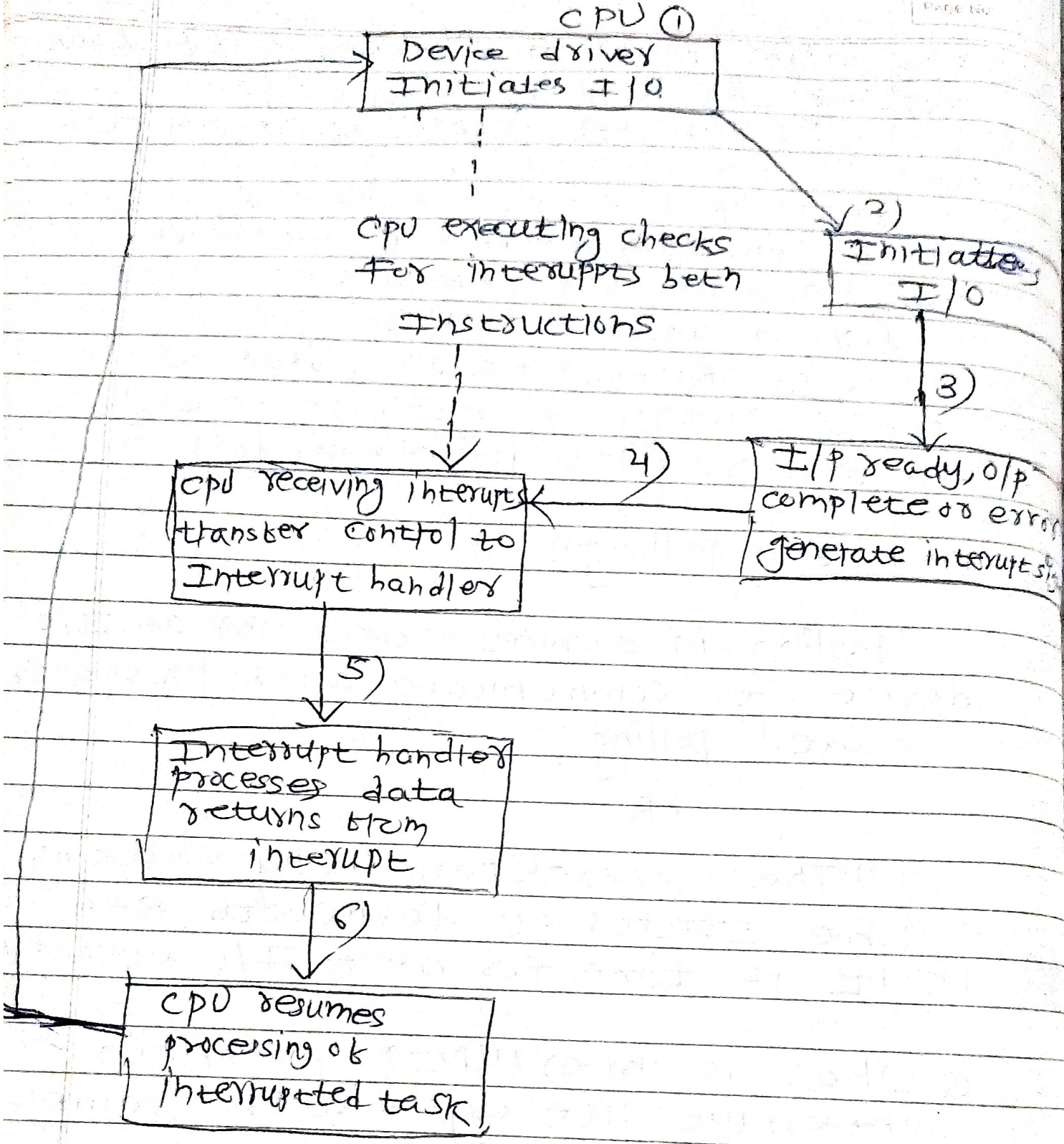


Fig: Interrupt I/O cycle

1) An interrupt is a function of O.S that provides multiprocess multi-tasking.

ii) "It is signal that prompts the O.S. to stop work on one process & start work on another one."

iii) It is signal to microprocessor from a device that requires tension. The interrupts signal causes CPU to stop what it is doing & turns it's attention to something else

iv) The interrupt mechanism works as follows:-

1) The CPU hardware has a wire called as interrupt request line that CPU senses after executing every instruction

2) When CPU detects that controller has sent a signal on interrupt request line the CPU saves it's current state & jumps to interrupt handler routine at a fix address in memory.

3) Thus, interrupt handler determines the cause of interrupt, performs necessary processing & executes & returns from instructions to the CPU execution state prior to the interrupt.

4) We can say that CPU resumes it processing of interrupted task

There are two major types :-
(Interrupt req. line)

I) Maskable interrupt
II) Non-maskable interrupt.

I) Non-maskable :-
"It is reserved for events such as, non-recoverable memory errors".

II) Maskable :-
" It can be turned off by cpu before execution of a critical instruct sequences that must not be interrupted"!

i.e. maskable is recoverable interrupt

* Interrupt mechanism also implements system of interrupt priority levels :-

Event vector table

	Vector No.	Desc
1)	0	divide by zero error
2)	1	debug exception
3)	NULL 2 interrupt	NULL interrupt
4)	3	break point
5)	5	Bound range exception
6)	7	Device not available
7)	12	stack Full
8)	13	generate protech
9)	14	page fault
10)	16	Floating point error
11)	17	Alignment check
12)	18	Machine check
13)	19-31	reserved
14)	32-255	Maskable interrupt