Assignment >3

8086 Micropro-cessor

- (x) Prepare a report on 8086 microprocessor architecture & its functional units.
- -) 8086 microprocessor is an enhanced version of 8085 microprocessor that was designed by intelin 1976. It is a 16-bit microprocessor having 20 address lines & 16 data lines that provides up to LMB storage.

The functional units of 8086 microprocessor

- 1) BIU (Bus interface unit)

 -> The segments registers, instruction pointer &
 6-byte instruction queue are assiociated with
 the bos BIU.

The BIU:

- Handles transfer of data & addresses,
- Fetches instruction codes, stores fetched instruction codes in first-in-first-out register set colled a queue.
- Reads data from memory & I/o devices.
- Writes data to Memory & I/o devices.

The BIO has the following functional parts:1) Instruction queue — code segment reg
2) segment registers — Data 11 (De stagle " (SS) code segment reg(cs) - Data 11 (DS) - Stack 11 (SS) - Extra 11 (ES) — Instruction poi (IP) (2) EU (Execution unit)

-) The EU receives opende of an instruction from the queue, decades 9+ & the executes 9 While the EU decodes vor executes an Instruction, the BIU fetches instruction code from the memory & stores them in the queve.

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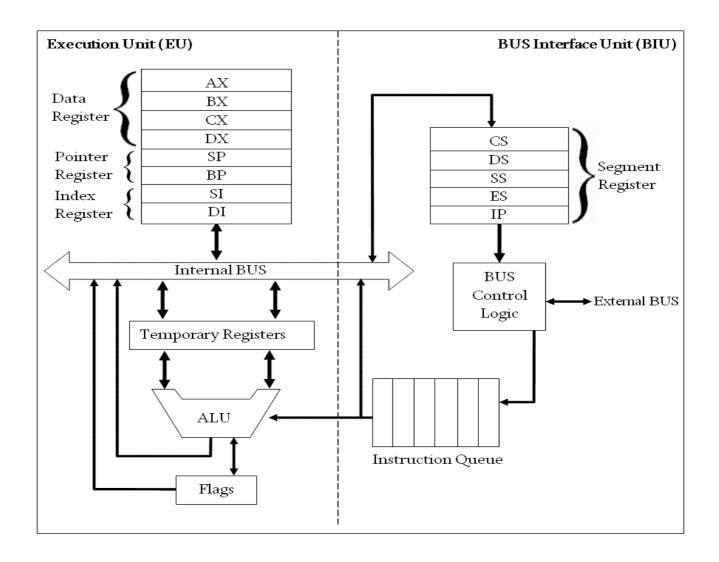


Fig: Block diagram of 8086 Microprocessor.