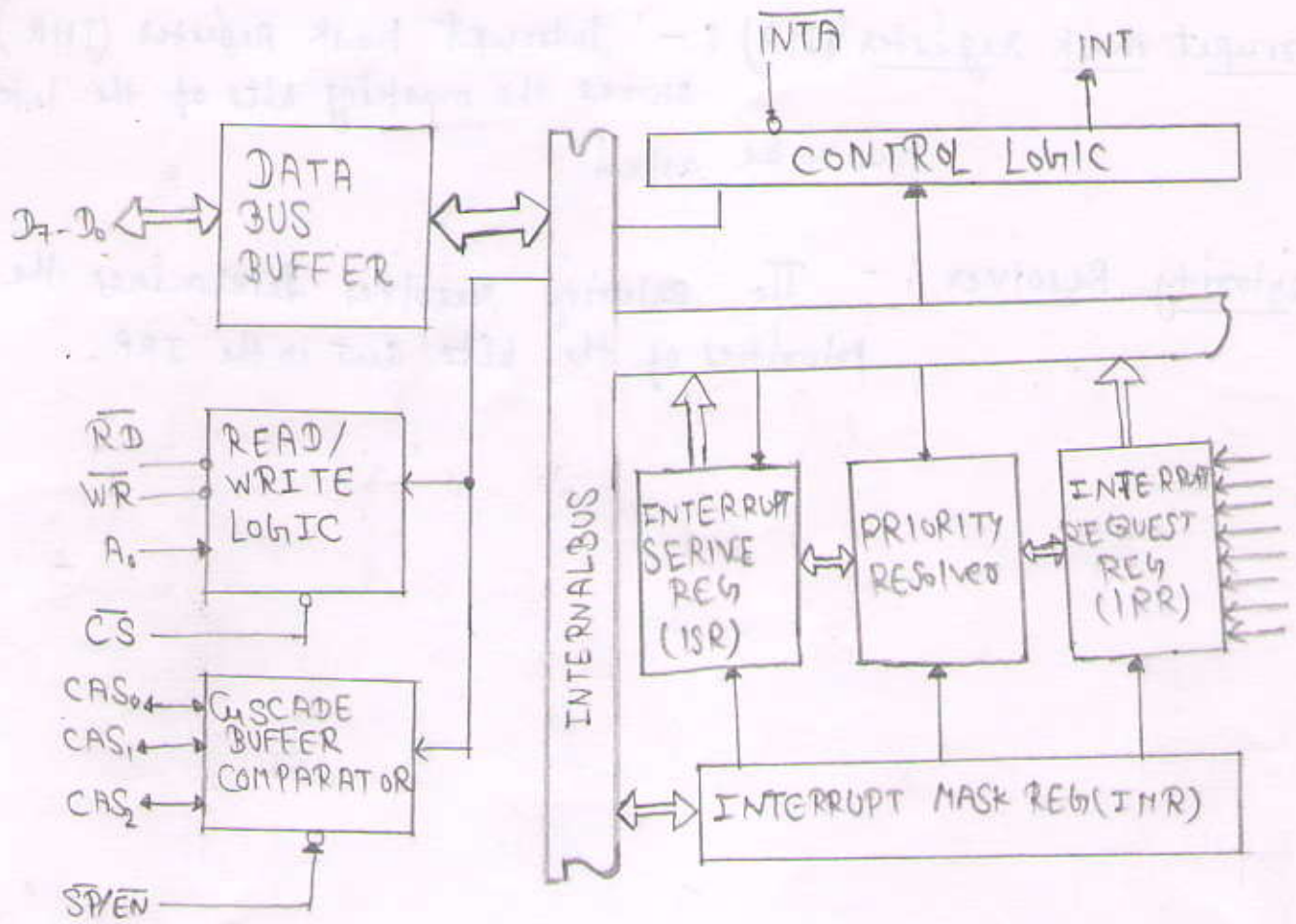


Q(1) Explain the Block Diag. of 8259, Programmable Interrupt Controller.



Ans → Data Bus Buffer :- The data bus buffer allows the 8085 to send control words to the 8259A and read a status word from the 8259A.

Read/Write Logic :- The RD and WR inputs control the data flow on the data bus.

Control Logic :- This block has an input and an output line.

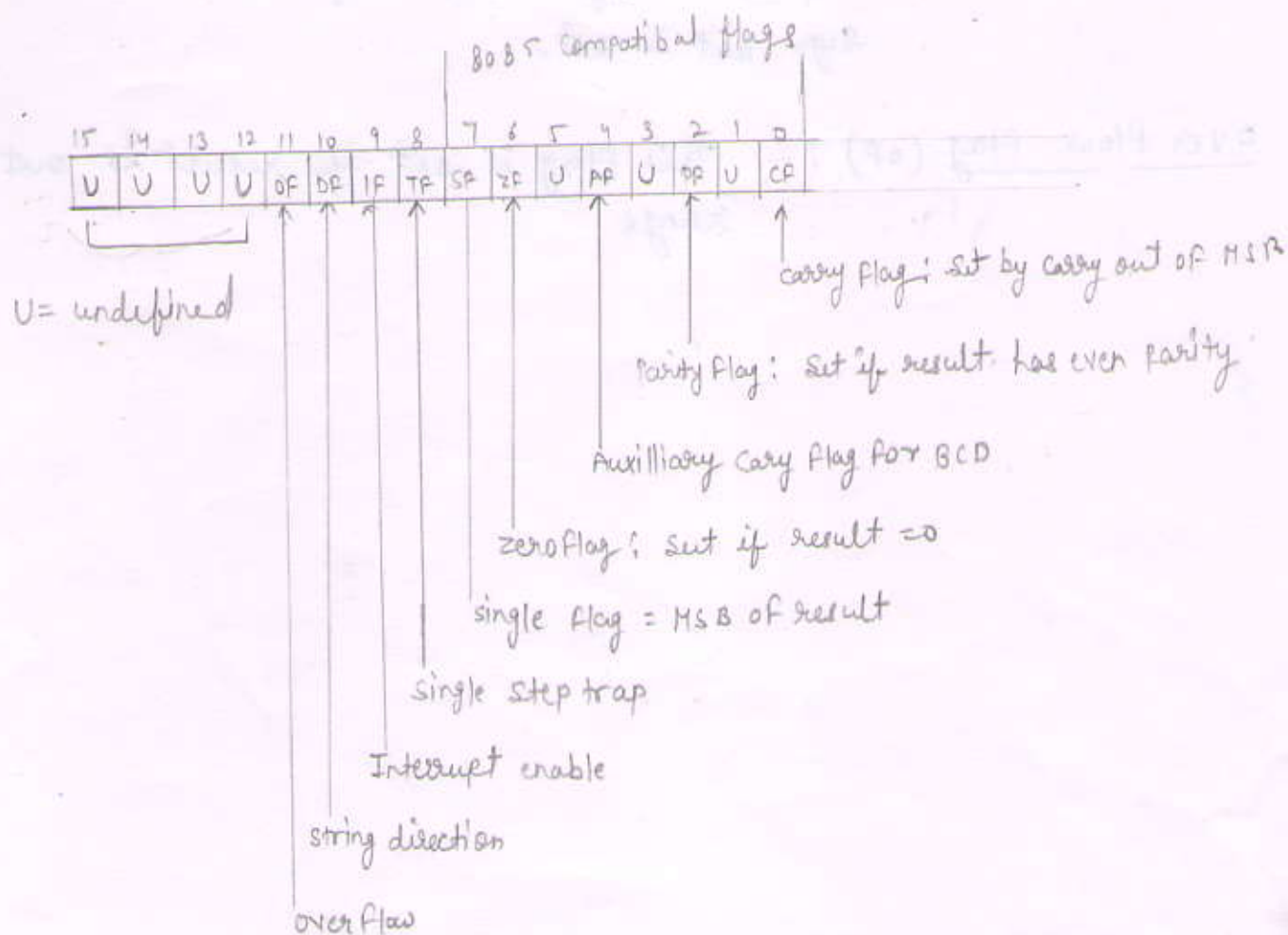
Interrupt request Register :- The IRR is used to store all the interrupt levels which are requesting the service.

Interrupt service register (ISR) :- The interrupt service register (ISR) stores all the levels that are currently being.

Interrupt mask register (IMR) :- Interrupt Mask Register (IMR) stores the masking bits of the interrupt lines to be asked

priority Resolver :- The priority resolver determines the priorities of the bits sent in the IRR.

Q2) Draw the format of flag Register in 8086/486 & explain each flag.



→ CY Flag (Carry flag) → In case of addition this flag is set if there is a carry out of the MSB.

(2) Parity Flag (PF) :- It is set to 1 if result of byte operation or lower byte of the word operation other wise it is zero.

(3) Auxiliary Flag (AF) :- This flag is set if there is an overflow out of bit 3 i.e., carry from lower nibble to higher nibble (D₃ bit to D₄ Bit).

(4) zero Flag (ZF) :- The zero Flag Sets if the result of operation in ALU is zero and Flag reset if the result is nonzero.

(5) sign Flag (SF) :- After the execution of arithmetic or logical operations if the MSB of the result is 1, the Sign bit is set.

(6) over Flow Flag (OF) :- This Flag is set if result is out of range.

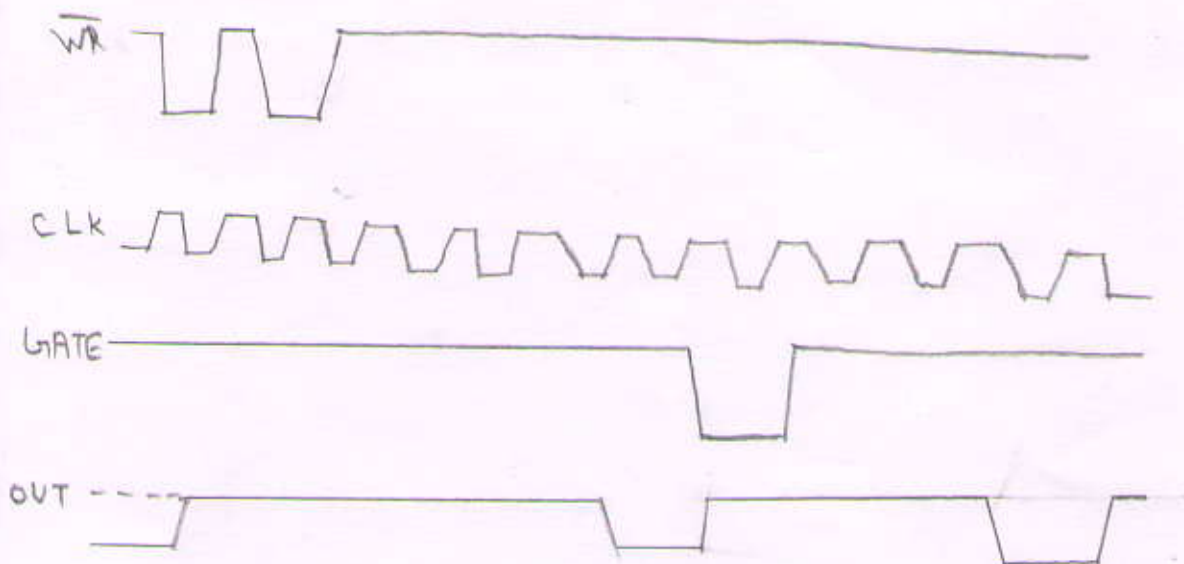
Q 3) How many Modes are there in 8253, Name them & explain Mode 3.

Ans 3) → There are 6 Modes in 8253.

- (i) Mode 0 (00) → Interrupt or Terminal count
- (ii) Mode 1 (001) → Programmable one shot
- (iii) Mode 2 (X10) → Rate generator
- (iv) Mode 3 (X11) → Sq. Wave generator
- (v) Mode 4 (100) → S/w Triggered strobe
- (vi) Mode 5 (101) → H/w " " "

Mode 3 (X11) Sq. Wave generator

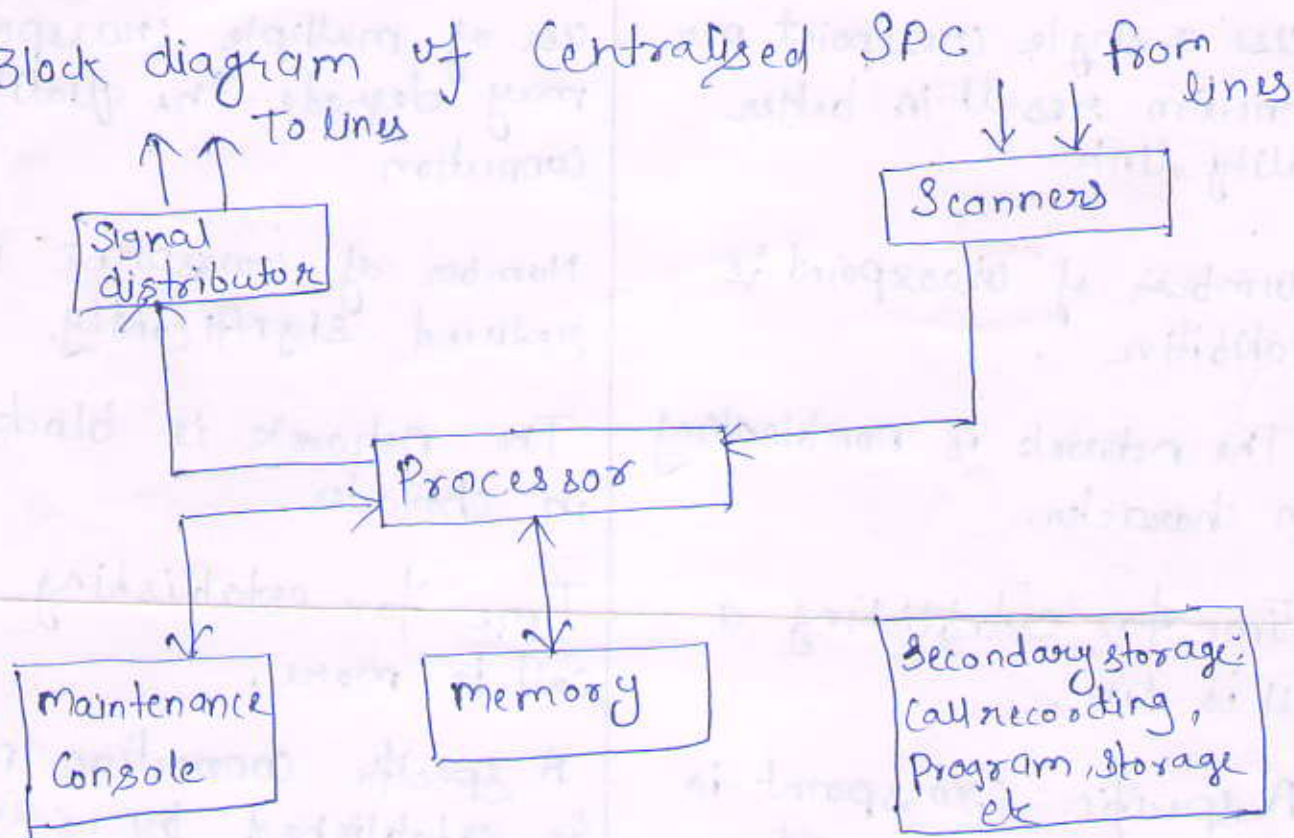
This Mode is used to generate Sq. Wave as o/p. The o/p remains low for Half of Timer ~~has~~ & high for the other Half of the period.



18/1/18

- (1) Explain the block diagram of Centralized SPC
- (2) Difference between Single stage and Multistage Network
- (3) Explain the LAN.

(1) Block diagram of Centralised SPC



In centralised control, all the control equipment is replaced by a single processor which must be quite powerful. It must be capable of processing 10 to 100 cells per second, depending on the load on the system and simultaneously performing many other ancillary tasks.

A centralised SPC configuration may use more than one processor for redundancy purpose. Each processor has access to all exchange resource like scanners and distribution point and is capable of executing all the control functions.

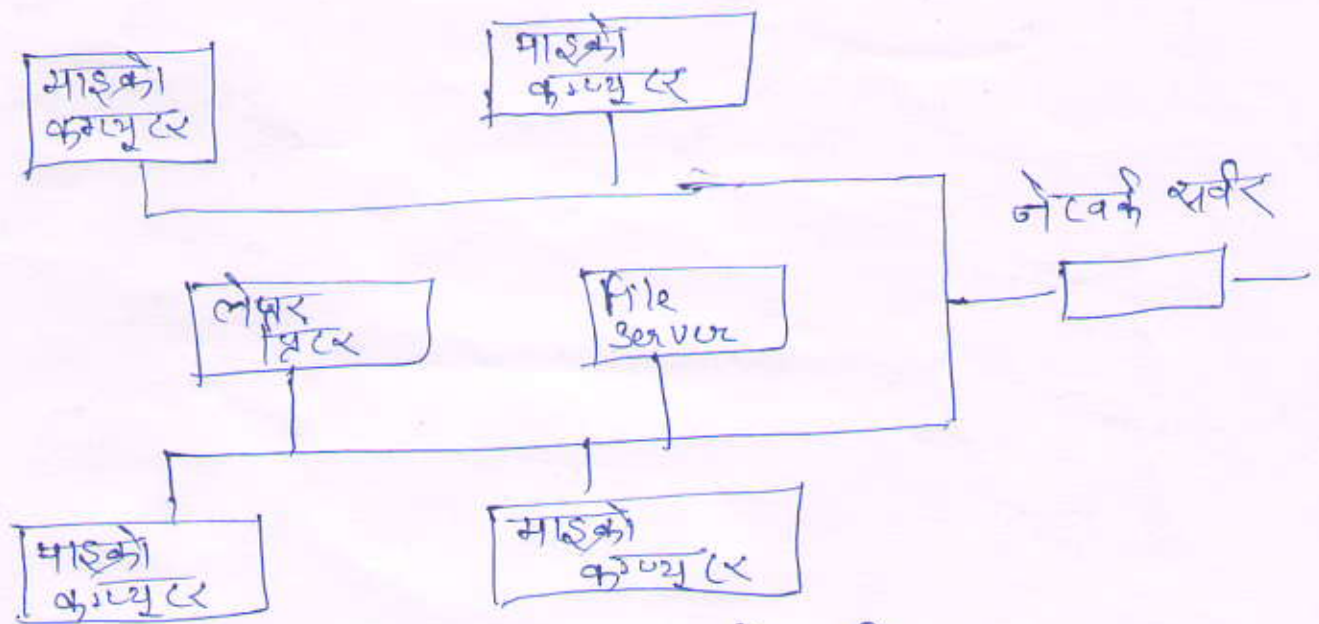
Ans → difference between single stage and multistage Network

Single Stage	Multi Stage
<p>1) Inlet to outlet connection is through a single crosspoint.</p>	<p>Inlet to outlet connection is through multiple crosspoint</p>
<p>2) Use of a single crosspoint per connection result in better quality link</p>	<p>Use of multiple crosspoint may degrade the quality of connection</p>
<p>3) Number of crosspoint is prohibitive</p>	<p>Number of crosspoint is reduced significantly.</p>
<p>4) The network is nonblocking in character.</p>	<p>The network is blocking in character.</p>
<p>5) Time for establishing a call is less.</p>	<p>Time for establishing a call is more.</p>
<p>6) A specific crosspoint is needed for each specific connection</p>	<p>A specific connection may be established by using different sets of crosspoint.</p>
<p>7) Each individual crosspoint can be used for only one inlet/outlet pair connection</p>	<p>Same crosspoint can be used to established connection between a number of inlet/outlet pair connection.</p>
<p>8) If a crosspoint fails, associated connection cannot be established.</p>	<p>Alternative cross-point and paths are available</p>

Ans-3

LAN → यह एक Local Area Network है।

एक इमारत अथवा इमारतों के समूह में ऐसा कंप्यूटर नेटवर्क जिसमें दो या दो से अधिक कंप्यूटर भौतिक रूप से जुड़े होते हैं। लोकल एरिया नेटवर्क कहलाता है। जुड़े हुए कंप्यूटर वर्क स्टेशन कहलाते हैं। इसमें कंप्यूटर एक दूसरे से इसलिये जुड़े होते हैं जिससे मंहगे उपकरण जैसे लेजर प्रिंटर का संयुक्त रूप इस्तेमाल कर सकें तथा सर्वर में मौजूद डाटाबेस और एप्लीकेशन सभी वर्क स्टेशन के लिए उपलब्ध हो सकें।



लोकल एरिया नेटवर्क

LAN निम्न 3 भागों में बाटा गया है।

- (1) ईथरनेट
- (2) आर्किनेट
- (3) टोकन रिंग नेटवर्क